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Address.

THE CHALLENGE OF THE CHRONIC PATIENT TO THE MEDICAL PROFESSION.*

BY JOEL E. GOLDTHWAIT, M.D., F.A.C.S., BOSTON.

THE subject, as it has been announced, was selected for discussion this evening partly because of the great reproach which chronic medicine represents to our profession, and partly because it seemed in a gathering such as this represents, made up of men of eminence in many different lines, that the subject might be discussed with such breadth that a better understanding of chronic medicine might be reached, or at least a more determined effort made to secure such understanding. Another reason for the selection of the subject is the appeal for relief which has come from the great number of patients afflicted with chronic diseases seen by me in the thirty years spent in dealing with the chronic patient, with the consciousness that each year more and more of these sufferers are turning away from our own profession to irregular practitioners, or members of various cults, for such relief as is possible.

In considering the subject broadly, it can hardly be denied that our profession as a whole has but little interest in chronic medicine, and that the interest is distinctly less than it was a generation ago. With the improvement in measures having to do with public health, many of the medical conditions which formerly required much time for recovery, have been eliminated, while with the improvement in surgery, based upon the results of asepsis, the many cases of long healing of wounds no longer exists. The natural result of this is, that today rapid recovery from the special symptom for which admission to our hospitals is sought is expected, with the result that a certain rivalry exists with our hospitals and practitioners in the endeavor to show the smallest number of hospital days per patient, with less and less attention to treatment after the primary suggestions. This naturally leaves very little place or time for the cases that do not react promptly or for which there are no specified lines of attack.

That the profession has very little real interest in chronic medicine is obvious not only from the present-day organization of our hospitals, but in the study of the textbooks of medicine or surgery as they exist today. The small amount of space allotted to this great branch of our work means lack of interest or lack of knowledge of the diseases, or of lines of investigation to obtain such knowledge.

Another thing which, it seems to me, we should most seriously consider is that with the patients having chronic disease who are now accepted for study, unless something is done with the elaborate examinations which are being made, other than to report the negative

*Address before the Hartford Medical Club, October 3, 1921.

findings, not only is the patient harmed by the common hopeless or indifferent prognosis given, but our profession is rendering itself liable to great ridicule. No one can have had much to do with any clinic where chronic patients are received, without meeting many who have been through the various diagnostic clinics where most elaborate tests have been made for chemical or bacterial disturbances, with the common summary that all tests are negative, the condition, therefore, being wholly functional, even where there are actual objective lesions present. When we consider the great changes which have occurred in the methods of examination of patients in the past decade, with the constant addition of "new" tests for "this or that," it is surprising what positive opinions in matters of prognosis are ventured.

The many sheets of most carefully prepared papers showing the latest kidney or heart tests, the various blood tests, the basal metabolism, the intestinal contents, the visceral roentgenology, etc., etc., which the patients so frequently thrust into our presence as a challenge, must either go farther in the interpretation of the findings or most of the work must be considered purposeless.

In studying many such records, that which has led to the greatest surprise is the limited space, or usual entire lack, to consider the anatomic structure or the general appearance of the patient. One of the basic principles in the study or teaching of medicine theoretically has always been proper foundation in anatomy, but with very few exceptions, this is still being taught on the basis of one human type, to which all must conform. It should cause little surprise that so little advance has come in the knowledge or treatment of chronic disease when the great variations from this textbook normal are appreciated and when, in so far as my own experience is concerned, practically none of the cases of chronic disease are of this normal structure. Sufficient studies have been made to take this variation in type out of the position of speculation, but in no textbook, in so far as I know, is it mentioned, nor is anatomy taught with reference to it.

Not only do individuals vary in structure,—muscles, bones, viscera, and potentials of activity,—but with considerable regularity such structure carries with it its own potential of disease.

In the time that is available this evening, it is not possible to go into all of the details of the differing anatomy. All that can be done is to offer a very few suggestions, hoping that you practitioners will put the matter to the test, in which case you will certainly contribute important knowledge to our understanding of these cases. Make your examinations none the less thorough than you have, but begin with the structure of the patient, basing the study of the physiology and the general function upon this special structure, and study its function both when standing as well as lying down. With such an approach, some of the former tests will take on new meaning.

For one feature, the low back conditions probably lead more often than any other, to medical advice being sought for relief, which is not unreasonable when the great variations in structure are appreciated, together with the imperfect mechanics in use. With more attention given to the actual structure of the individual patient, the understanding of these cases will be much simplified. The narrow, high vertebra, with flat articular processes and small, transverse processes of the slender creature upon which its flexibility depends, can be easily demonstrated; as well as the broad, low vertebra, with deeply crescentic articular processes, with broad, transverse processes, upon which the lack of flexibility depends, can also be demonstrated. That six lumbar vertebrae are not uncommon, and that at other times four vertebrae are seen in certain chronic conditions, receives no attention, any more than the position of the last lumbar with reference to the sacrum or the wings of the ilia, or the effect of this upon the sacroiliac joint.

Similar variations in structure that are capable of demonstration exist at the dorso-lumbar region, and with the difference in the shape or position of the last rib, with reference to the varying shape of the transverse processes of the first lumbar, require only slight thought, if studied, to explain some of the pains in the loin for which so many mysterious manipulations are performed or for which much "kidney medicine" is taken.

Of the abdominal viscera, the variations from the textbook normal are very great, and are wonderfully in keeping with the structure of the individual from the point of view of function. The loosely attached organs of the slender type of creature make the extreme flexibility of the body possible, without harm to the organs inside. It requires very little thought to see the possibilities for contusion of the liver, stomach, spleen, kidney, etc., that would exist in the free mobility of the body at the dorso-lumbar level (waistline) if these organs were of the large size of the so-called normal, or were not attached by the long, loose mesenteries or ligaments. If such thought is given, very few "pexies" will be performed in the slender type of individual.

On the other hand, when the very heavy organs of the heavy type of individual are considered, one is not surprised to find the heavier and more secure attachments and a relatively inflexible skeleton that would make harmful movement impossible.

Little attention is given, either from the point of view of structure or function, to the fact that the intestinal length varies, in these anatomic types which commonly have the

chronic disease, from ten feet (the textbook normal is twenty feet) to nearly forty feet, while the variation in the length of the large intestine is from two to three feet.

Such elements must have some importance in the interpretation of the symptoms or the disabilities which the patients present.

Once such anatomic features are recognized, and the function of parts considered in the varying ways in which the body is used, it requires very little imagination to at least see possibilities of difficulty.

For instance, if the position of the spleen is considered and if the blood supply is remembered, the main artery coming, as it does, from the right side of the spine, crossing to the left under and attached to the stomach, it is not hard to imagine that in some of the marked displacements of the stomach, the circulation of the spleen, either arterial or venous, might be interfered with, with natural disturbance of the function of that organ.

Also if the position of the pancreas is appreciated, and the marked downward displacements of the liver and stomach as part of the common visceroptosis, are considered, it is not difficult to imagine disturbances of function of that organ from this cause alone. Certainly the presence of sugar in the urine is not wholly due to irregularities of diet. Again, if the mobility of the kidneys is considered, as occurs especially in the cases of visceroptosis of the congenital type, it requires but little imagination to see that the blood flow to or from the organ, or the drainage of the secretion of the organ, may be easily interfered with. The many cases of orthostatic albuminuria are not hard to understand, and with the change that is taking place in the general structure of the race to more and more the slender type, should lead us to expect to find this more and more frequently as time goes on, unless the individuals are properly trained. The work of Scholter and Veith, showing that lordosis is the essential feature in producing this symptom, is suggestive, yet how few of the profession even know of such possibilities. The presence of albumin in the urine, which should be one of the frequent findings in our people today, is ordinarily considered indicative of serious disease by our profession, instead of many times a functional disturbance of little importance if rightly handled.

With the stomach and intestine, the many malpositions, with the possibilities of the maladjustment leading to disturbance of the physiology, should be too evident from the common roentgenological study to require mention here, but the fact that such physiological disturbances are capable of correction by mechanical means other than operation, does not seem to be so fully realized.

Still further, since with the visceroptotic patient there is always more or less ptosis of the diaphragm, and since the flow of blood from the abdomen back to the heart is almost entirely dependent upon the regular action of the diaphragm (milking the abdominal veins against the upwardly opening valves), it is fairly easy to believe that some of the abdominal symptoms or disturbances in the physiology are due to the disturbances in the circulation, resulting from this position in which the inaction of the diaphragm can be easily demonstrated by fluoroscopic examination.

In the symptoms which may result from this, it is probable that not all will be referred to the abdomen, but that if the diaphragm does not act properly the regular supply of the blood to the heart may be interfered with. The last word has evidently not been said regarding the many cases with demonstrable disturbances of action of the heart, but with no detectable disease of the organ itself present. In the A. E. F., the many cases of D. A. H. (deranged action of the heart) were, I think, never fully explained, but it is a significant fact that both in the British Army as well as in our own, it was realized that if the individual could be developed so that the body was held erect (in which the diaphragm acts freely), in contrast to the drooped habitual posture of these patients (in which the movement of the diaphragm is very slight), that the heart symptoms disappeared. The British sent such cases to the Command Depots for physical development, and in our Army the special training organizations and convalescent camps performed similar duty.

In this same line, having to do with the general circulation, at the Citizens' Military Training Camp held at Camp Devens this last summer, about seventy per cent. of the men admitted were marked B, or below the normal standard of physical vigor, and unequal to full military duty until trained. The typical drooped figure of the day was the common type. Naturally, none of these men who were accepted had disease of the heart, yet until they were trained to the erect military carriage, the most troublesome feature in their training was the frequent fainting whenever these men were obliged to stand in fixed positions. At the end of the first ten days of training, with the naturally higher position of the chest, which the position of the soldier requires, and in which the diaphragm must act, the fainting ceased.

The effect which such features of anatomic structure and the mechanical maladjustment of the parts has upon actual pathological conditions there is not time for us to go into this evening, nor is it possible, many times, with the knowledge which we possess today, to conclusively prove the relationship between the structural conditions and the symptoms. With some of the cases the cause and effect features can be quite definitely shown with relief following such recognition. With others, much

of the treatment today must be empirical, but justified by the results.

This fact should in no way embarrass us, because in practically all of the great advances of our profession the empirical teaching has preceded the demonstration of the laboratory. The common relief of symptoms by the use of measures based upon the study of the structure of the individual, must mean that some of the disturbance of the physiology seen in these cases is due to simple mechanical features. This should also mean that with continued study along such lines a more exact knowledge of the special features will be had.

As far as one can see from the studies thus far carried out, most of the cases which represent the bulk of the chronic patients must be primarily disturbances of the physiology with the pathologic features resulting from this. The fact that the disturbances of the physiology may be due to the mechanical feature mentioned above is too obvious to be dismissed without investigation. Certainly, the correction of the obvious mechanical conditions can do no harm, and I am sure, from my personal experience, that this alone will so relieve the physiologic distress, that a great many of the cases which otherwise will drift into the hopeless class, will recover. All that is asked of you in this regard is that you will study your cases in this way, and observe the results.

There is one feature in this consideration of the chronic patient that seems to me to need mention at this time, which is, that we do not allow ourselves to be misled in our cause and effect interpretation of our work. That which I have in mind especially, but which is presented as illustrative of a good deal of general reasoning, is the attitude held today regarding the chronic arthritic and focal infection. That the recovery from joint symptoms which follows the removal of teeth or tonsils is at times due to this specific treatment there can be no question, but that all of the cases which ultimately recover do so because of this, anyone who has seen much of such cases must question. We must never forget that the average case of "chronic rheumatism" (by whatever special term it may be designated) gets well and has gotten well long before these special surgical measures have been used. If this were not so, think of the numbers of cripples there would be today. Naturally, if the tonsils are diseased, or if the teeth are in bad condition, they should be treated as matters of general hygiene, but very rarely is the really serious case of chronic arthritis influenced by this. Most of these cases are due, as far as we can see today, to complex disturbances of the physiology as it concerns the abdominal structures, in which probably no one organ is wholly at fault. Imperfect drainage of the bowel may be a factor, but the imperfect drainage of the ducts of the other viscera may be as important, or the character of the secretion of the different glands or organs may be changed by disturbances of the blood supply.

Too rich a mixture in the gas supply of an automobile makes the motor stall; too weak a mixture leads to a similar result. It seems not improbable that in just such ways the balance which the normal physiology represents may be disturbed, and that because of this, bacteria may multiply, for instance, that would otherwise be controlled, or that other elements that are desired are not produced. Many disturbances are possible.

The problem of the chronic arthritic is an exceedingly complex one, but if studied with reference to the physiologic potentials of the special individual, should be most hopefully faced.

These, gentlemen, are simply a few of the suggestions which I should like to leave with you tonight. The chronic patient is offering a challenge to us, the answer to which will mean either the downfall of a large part of our work or the relief of a great many who now beg for relief, but who receive scant consideration at our hands. Study them, make the most thorough examination of them that is possible, but first study the anatomic structure of the individual with the special physiology that is peculiar to such special structure, as well as the disturbances of the physiology that should be expected, as the body is used by the special case, and see if some of the special tests or examinations do not take on new significance, so that the cases become understandable and relief can be offered.

Original Articles.

THE DIAGNOSIS OF HEART DISEASE WITH ESPECIAL REFERENCE TO ITS IMPORTANCE IN PREVENTIVE MEDICINE.*

BY PAUL D. WHITE, M.D., BOSTON.

FOR the prevention and relief of heart disease, accuracy in diagnosis is all-important. Accuracy in diagnosis will aid us in the further study of the causes of heart disease, in determining its frequency and importance in the schools and in the community at large, in the judgment of its relation to industry and of its bearing on the future of the individual, and as a guide to prophylaxis and treatment. But accuracy in diagnosis is not sufficient unless our vocabulary in consistent. Our terminology needs to be standardized, and a part of the discussion tonight is the presentation of a working classification of cardiac diagnosis, the use of which

*Read before the Boston Association of Cardiac Clinics, November 17, 1921.

may help to link up our efforts, not only in the various cardiac clinics in Boston, but in general medical clinics and private practice as well. A classification of cardiac diagnosis along the lines of that now presented was published recently by Myers and myself in the *Journal of the American Medical Association* * It is the result of the teachings of Mackenzie, Lewis, Cabot, the New York Cardiac Clinics, and our own experience in the Association of Cardiac Clinics in Boston. I wish to express my indebtedness for some of the ideas of the classification to the physicians in charge of the Boston clinics: Dr. Burton E. Hamilton, at the Boston City Hospital; Dr. Richard S. Eustis in the Children's Cardiac Clinic at the Massachusetts General Hospital; Drs. George P. Denny and Samuel A. Levine, at the Peter Bent Brigham Hospital; Dr. William D. Reid, at the Boston Dispensary, and Dr. Paul W. Emerson, at the Children's Hospital.

No longer do we regard disease in a fatalistic way. For the last two generations the medical profession and, following it, the public at large have realized that much disease results from infections, and that a very large part of these infections should be preventable. No more does one hear so frequently the present-day parent say, "The children must have their chicken-pox, measles, whooping-cough and mumps; the sooner they have them the better off they will be." Some day it may be regarded as very nearly criminal to allow infectious diseases to continue to exist. At the present day, some of us may harbor this thought, but we are a long way from its execution. Medical progress is bound to be slow, as human progress is in any lines of endeavor, but it is only by constant stimulation and effort that we progress at all. Preventive medicine is the aim of every clear-thinking physician who has the welfare of the race in his mind. Prevention of some of the most deadly of the world's diseases is now almost a universal accomplishment, but we are but at the threshold of our labors. Smallpox, plague, yellow fever, cholera and leprosy are no longer the scourges they once were—in fact, they are all so rare that most of us have seen but a very few cases of all of them put together. I have never seen a case of plague, yellow fever or cholera, and I could count on my fingers the number of cases of smallpox and leprosy that I have seen. Great progress has been achieved in the prevention of typhoid fever and exanthematic typhus. The prevalence of pneumonia and the terrible sweep of the influenza have aroused us to realize the vast importance of cutting down respiratory disease. Measles and whooping-cough must go the way of the others. The prevention of venereal disease is arousing widespread interest. Contagion is the manner of spread—all infectious diseases are contagious, but they vary in the degree of their contagiousness. The more contagious diseases have aroused attention first and have been combated, but there are many others much less contagious but almost equally serious. One of these is rheumatic fever, the commonest cause of heart disease in young people. If we can reduce, as we eventually shall, rheumatic fever and chorea, repeated tonsillitis and syphilis, if we will subject to early treatment patients with exophthalmic goiter, the causes of the vast majority of cardiac cripples in youth and middle age will be cut down tremendously. Then we shall have left the problems of arteriosclerosis and high blood pressure which in their turn, we hope, will be fought sometime and limited in their extent.

I have thus outlined the most important part of the program of our newly formed Association of Cardiac Clinics. We do not expect to produce wonderful accomplishments in a moment, but we do hope that in the course of years progress will be made. We feel that the time is now ripe to make such a start here. In New York, an organization was formed several years ago for the prevention and relief of heart disease and in various other cities similar organizations are being formed. To the primary object of the coöperation of the heart clinics of the various hospitals of this city two important measures will contribute: (1) the advance of methods of prevention of disease, and (2) the spread to the people of the need and methods of prevention. The other aims of the organization are: (1) to prevent failure and further heart damage in people already diseased, and (2) to forward cardiac research of all kinds in laboratory and clinic.

With this preamble I shall now turn to my stated topic — the Diagnosis of Heart Disease. That the preamble was essential will shortly become apparent. In the first place we must distinguish between heart disease and what is not heart disease. In our campaign against heart trouble we should obtain accurate statistics. We must distinguish between cardiac symptoms, due to other cause than actual disease in the heart, and true heart disease. This is not always easy. Seventy of 272 cases with cardiac symptoms or signs whom I have examined in consultation in the past two years, did not have heart disease. Yet in most medical statistics at large these cases would be included. The conditions simulating heart disease, which must be borne in mind, are nervousness, hyperthyroidism, early or slight chronic infections, abdominal disease, paroxysmal tachycardia, premature beats and functional murmurs.

ETIOLOGIC DIAGNOSIS.

After we have decided that heart disease is present, then comes the diagnosis of the type. The terms, myocarditis, dilatation of the heart, leaking valve, whether mitral or aortic, heart block, auricular fibrillation, hypertension, and decompensation, are all inadequate in them-

Jour. A.M.A. October 29, 1921, lxxvii, 1414.

selves. Yet they are the terms one hears in almost universal use. It is important for three reasons to add to the diagnosis, as its most essential part, the cause, that is, the etiologic diagnosis. The reasons are: first, our knowledge of the future of the case is helped by so doing; second, our treatment and prevention of further cardiac damage is more sound; and finally, third, we shall be able better to prevent heart disease by clearly distinguishing, so far as it is possible, the etiologic types. If we do not know the cause, our ignorance should be definitely expressed; for example, "cardiac enlargement and weakness of unknown cause."

Etiologically, the commonest type of heart disease is the *arteriosclerotic*, the condition sometimes called cardiosclerosis. It is very frequent, of course, in old age, and often is unexpressed, the term "old age" covering the infirmity without further analysis. In youth, the *rheumatic* type of heart disease is very frequent, including, as it does, damage by rheumatic fever, chorea, tonsillitis and scarlet fever. This is a type that should be reduced materially through the application of the principles of preventive medicine. It must be emphasized here that not only should it be said that a heart is rheumatic, but it is also important to state whether the infectious process is active or inactive—a question often very difficult to answer. If in doubt, it should probably be most wisely considered as active. The rheumatic heart, undoubtedly, may smoulder for years. Another important type that should be combated, eventually with success, is *syphilitic* heart disease through the proper prophylaxis and treatment of syphilis in the community. This type is apt to appear in middle age and, as in the case of the rheumatic heart, may be either active or inactive. Another preventable or reducible type is the *thyroid* heart, the result of chronic thyroid intoxication. Early recognition and treatment of hyperthyroidism is essential to cut down the frequency of the thyroid heart. *Diphtheritic* heart disease is another type, also eventually preventable. Then there is the common *hypertensive* heart disease resulting from or attended by high blood pressure, whether that high blood pressure is the result of kidney disease (nephritis) or of the essential type, probably due to arterial irritability of uncertain cause. The old term, cardiorenal, as Dr. Pratt has pointed out to me, is a loose one covering, as it often did quite wrongly, both these causes of hypertension and including, not infrequently, arteriosclerotic or rheumatic heart disease with albuminuria resulting from congestive failure and not actually due to kidney disease. Rarer types are the *congenital*, *unusual infectious* heart disease, such as involvement by the pneumococcus or tubercle bacillus, *trauma*, *obesity (?)*, and *tumors*. The importance of distinguishing true heart disease from such a condition as the *nervous* heart has already been emphasized. The very common condition associated with the nervous heart is also called cardiac neurosis, neuro-circulatory asthenia, the soldier's heart, effort syndrome and, during the war, by the British, "disordered action of the heart."

Summarizing, then, the etiologic classification of heart disease, we must distingush the following types: arteriosclerotic, rheumatic (active or inactive), syphilitic (active or inactive), diphtheritic, hypertensive, thyroid, nervous, congenital, rare infectious, traumatic, obese (?), and tumors. The athlete's heart is an uncertain entity, undoubtedly often being simply the nervous heart. Finally, the term, "*of unknown cause*," should be used as often as necessary. It is quite a good stimulant.

STRUCTURAL (ANATOMIC) CHANGE.

Having made the etiologic diagnosis, however, we have completed only a third of our task. We must also state the structural or anatomic changes and the functional condition, if we desire to express a complete and satisfactory diagnosis of a given case of heart disease. Under the structural diagnosis comes the whole list of *valve deformities* from tricuspid stenosis to aortic regurgitation. These valve lesions are the only demonstrable signs of involvement of the endocardium. *Pericardial pathology*, from fibrinous pericarditis to pyopericardium, should be here included. *Deformities and lesions of the great vessels*, such as aortic aneurysm and patent ductus arteriosus fit into the structural classification. *Cardiac enlargement* or abnormal position, such as *dextrocardia*, *ventricular preponderance* and *auricular hypertrophy*, also belong here. *Myocardial pathology* itself may be taken for granted when the etiologic type is mentioned, whether it means the Aschoff bodies of the rheumatic heart, the fibrosis of arteriosclerosis, the destruction from diphtheria, syphilis, or hyperthyroidism, or the hypertrophy with hypertension.

FUNCTIONAL CONDITION.

Finally, the third diagnostic classification, into which we should fit every case, is the functional. This is of great importance in proper judgment of prognosis and treatment. It includes disordered heart action, whether arrhythmia, regular auriculo-ventricular heart-block, intra-ventricular block, auricular flutter, or alternation. Hypertension may also fit here. In the proper use of digitalis and with the advent of quinidine therapy, it will become more and more essential to recognize auricular fibrillation and flutter. Because of the serious import of pulsus alternans, that, too, should be looked for and stated when found.

And finally comes the statement of the presence or absence of *heart failure*. Following Lewis, we may well discern two types, and following the New York Association of Cardiac Clinics, we may well discern four or five degrees.

The types are the *congestive* (that type of failure ordinarily spoken of as decompensation) and the *anginal*. In many cases, the anginal type of failure is much more serious than the congestive, and may bring death more speedily.

Both these types have all *degrees*, depending upon the amount of exertion necessary to bring on symptoms or signs of the failure. These degrees may be clearly expressed as follows:

1. Ability to carry on slightly decreased, habitual activity (but inability to carry on full activity) without symptoms, whether dyspnea or pain.
2. Ability to carry on moderate habitual activity.
3. Ability to carry on only the lightest habitual activity without distress.
4. Inability to carry on any habitual activity without distress (whether dyspnea or pain).

I shall summarize this classification with a few examples:

a. Arteriosclerotic heart disease with auricular fibrillation and heart failure of the congestive type (able to carry on only the lightest habitual activity without distress).

b. Rheumatic heart disease with mitral stenosis, auricular premature beats and failure of the congestive type (able to carry on slightly decreased activity).

c. Syphilitic heart disease with aortitis, aortic regurgitation, pulsus alternans and failure of the anginal type (able to carry on moderately diminished activity).

d. Cardiac neurosis with paroxysmal tachycardia without failure.

e. Cardiac enlargement of unknown cause (without failure).

DIAGNOSTIC METHODS.

Having completed this brief discussion of the diagnostic classification of heart disease, a few words should be said about the methods of arriving at a diagnosis in a given case. To establish the etiologic diagnosis, the *history* is, of course, of primary importance, the past history of illnesses ranking first. Rheumatic fever, scarlet fever, chorea, repeated tonsillitis, peritonsillar abscess, diphtheria, and syphilis are the most important diseases to ask about. Sometimes casual questioning will elicit no history of rheumatic fever or chorea, while careful questioning of the same patient or his relatives, will bring out the fact that there was at one time a good deal of trouble with growing pains in the joints and muscles, or nervous twitching for which he had to be sent home from school. The relationship of influenza to heart trouble is of interest particularly because a good many people with heart symptoms ascribe the onset of their symptoms to the early part of their convalescence from the "flu." Careful analysis will usually show that these hearts are really not influenza hearts but rather the nervous heart or rheumatic or other type of heart disease first exposed by the severity of the influenza.

The *family history* will help, at times, a good deal in showing the prevalence of sensitiveness of the nervous system in a family. Occasionally one also discovers other members of the family who have had rheumatic infections. Possibly, also, a tendency to presenile arteriosclerosis may be inherited.

Physical examination and laboratory tests will also bring considerable evidence to enable one to make an etiologic diagnosis. We can obtain help from the *Wassermann reaction*, the *blood pressure*, urinalysis, the finding of peripheral arteriosclerosis(including the arcus senilis), the discovery of mitral stenosis (indicating, as a rule, the rheumatic type), of pulmonary stenosis (indicating congenital heart disease), and of uncomplicated aortic regurgitation first found or giving symptoms in later middle age (indicating syphilitic heart disease), the finding of an enlarged thyroid gland with or without exophthalmos or, at present, an abnormally increased basal metabolism, and finally nervous tremor, a nervous temperament, or evidence of an infection. Any of these may help in arriving at our first diagnosis, that of cause.

Next, in order to diagnose structural change, the *stethoscope*, *percussion*, *x-ray*, *blood pressure*, and the *electrocardiograph*, all are of value. Of course, in every case the interpretation is of more importance than the actual record of the findings. Murmurs may be found, but unless they are interpreted correctly, one may be led astray in the entire summary of a case. The relative unimportance of the systolic murmur generally, the distinction between the diastolic murmurs of aortic regurgitation and of mitral stenosis, the significance of accentuation of the third heart sound and the unreliability of one reading of slight hypertension, are examples of the importance of proper interpretation. Electrocardiographic evidence of preponderant hypertrophy of either ventricle, the significance of an increased pulse pressure and the value to be placed on percussion findings, are other points for careful study in interpreting the degree of structural change. Although simple observation of the patient may be sufficient, in some cases, with percussion, auscultation and sphygmomanometry, we must be prepared in difficult cases or in the complete study of any case, to resort to the x-ray and the electrocardiograph (or the polygraph if the electrocardiograph is inaccessible) as valuable instruments of precision, of which there are too few in medicine.

Finally, in order to arrive at a functional diagnosis, we must combine the patient's own story of his limitations of activity, our own observations of the degree of failure (dyspnea, cyanosis, edema, and enlarged liver) and tests of exertion if in doubt. Various tests are in use for

this purpose; one of the best is that of swinging dumb-bells of a certain weight (say five or ten pounds) over the head and between the legs at a certain rate of speed. As has been frequently pointed out, this test, or comparable ones, are tests of physical fitness, not simply of cardiac capacity.

To determine *disorders of the heart beat,* clinical observation may often suffice if one is familiar with the findings of premature beats, heart block, auricular fibrillation and pulsus alternans; but very often graphic records—the electrocardiogram and arteriogram—are essential to clear up the situation. And finally, in the discovery of the very important condition of intraventricular block the electrocardiogram alone will suffice.

Thus much care and thought must be expended in arriving at a satisfactory cardiac diagnosis in a given case, with the proper utilization of methods and the proper classification of the diagnosis when we have secured all the data. By this care and thought we shall treat our patients better, advance our knowledge of heart disease, and establish a firmer basis for our all-important task of preventing heart disease.

PROBLEMS FOR CARDIOVASCULAR INVESTIGATION.*

BY SAMUEL A. LEVINE, M.D., BOSTON.

IT is the purpose of these meetings and of the efforts of our society to stimulate a new kind of interest in heart disease. We are not principally concerned with questions as to whether this particular mode of treatment of heart failure, or some other, is the proper one. Our main concern is how to diminish the incidence of heart disease, how to decrease the disability of the individual once he develops heart disease, and how to enable these unfortunate patients to remain, in some measure, self-supporting, despite the permanent disability of the heart.

With this in mind, I would like to discuss some of the problems that deserve our attention. It is not the intention to consider many questions that will continue to interest investigators, questions that in themselves are worthy ones, and will, when solved, make more rational our views as to the whole matter of cardiac disorders. The mechanism of the heart beat has been carefully studied, and other physiological points are being elucidated from time to time. Questions of drug therapy are also interesting many students, *e.g.*, the value of quinidine in patients with auricular fibrillation, the mode of action of digitalis in various conditions. But these frequently concern themselves with the treatment of the already damaged heart. Much more important would be information that would throw light on the prevention of heart disease and its disabilities.

Before the investigator may have the effective stimulus for his work, the public, who is in all such matters the party most concerned and whose support is always essential in any undertaking which in itself is not particularly remunerative, must understand its importance and its grave urgency. A great deal of progress has been made in the past decade or two with tuberculosis. Everyone is aware of its significance, of its economic as well as of its medical aspects. But people hardly appreciate that the disability from heart disease to a nation is of no lesser moment. I come, therefore, to the first point that needs investigation, *i.e.*, the exact incidence of the various types of heart disease throughout the country. There are several points involved in this problem. I say various types of heart disease, because it would not be so important to approach the problem if the sufferers from heart disease were all old people, if they belonged to the group of senile hearts. But there are so many thousands of our children and our young adults dying every year of valvular heart disease. Furthermore, such a study might throw light on the regional distribution of heart disease throughout the country. Is a particular climate more conducive to the development of a particular type of heart disease? We have impressions on these matters, but they are only impressions, and we need facts. It is my opinion that valvular heart disease is more common in New England than, for example, in the Southern States. You can readily see that information of this type may be of value to those individuals who are in the so-called vulnerable stage of heart disease, who so frequently develop the more serious aspects of the disease when they continue to live in the same climate or locality. Moreover, this study would emphasize the enormous economic loss to the nation as a result of the premature deaths of so many of its citizens.

We now come to the matter of prevention. The question is intimately linked up with the cause of heart disease and will naturally be different for the various types. It is questionable, for example, whether any effective good will come from researches on *congenital heart defects.* The prophylaxis of *syphilitic disease of the heart* is primarily a problem of venereal disease. It may be of interest to know what factors come into play that determine whether the cardiovascular system, particularly the aorta, is to become involved in the luetic infection. One gets the general impression that physical effort is partly responsible for it. For it is strikingly true that aneurysm of the aorta is prevalent in hard-working people, in men of physical strength, and less common in the sedentary and more feeble types of individuals. Another point that may soon be availa-

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ble to study is whether the modern, intensive treatment of early syphilis has had any influence in diminishing the incidence of aneurysm of the aorta.

The prevention of *toxic heart disease,* like diphtheria myocarditis and goiter myocarditis, must also be viewed from the angle of the primary disorder. The former is not of great moment, because most cases of diphtheria recover with an unimpaired circulation. The latter, on the other hand, is of distinct importance. We are as yet ignorant of the exact nature of the myocarditis produced by hyperthyroidism. How soon in the disease is the heart involved, and is there always a permanent damage to the heart once it is involved, are questions that need to be solved. Their solution will enable us to advise our patients more intelligently as to the form of treatment for exophthalmic goitre. At present, it sometimes is difficult to decide whether the patient should resort to the radical measures of surgery which entail an appreciable operative risk, or to try the x-ray or medical treatment. The point that needs to be clarified is whether a continued intoxication of the heart during the course of the more prolonged methods of treatment does occur, and if so, does the surgical procedure have advantages in this regard to counterbalance the operative risk. Animal experimentation along these lines might be of distinct help. Furthermore, careful studies of long-standing cases showing the end-results, particularly with regard to the heart, should be made of a large series of patients with hyperthyroidism treated by the different methods.

The fourth type of heart disease is the *senile heart,* with structural or functional changes of the heart muscle and the blood vessels. This is really a problem that is intimately related to the whole question of degenerative processes in the body. From the very nature of it, one would suppose that future medical progress in its prevention is apt to be slow and disappointing. Very little new knowledge concerning the prevention of arteriosclerosis, chronic nephritis, and chronic myocarditis has been developed in recent years. The whole question is an extremely difficult one. It is not at all unlikely that the present-day mode of living in a modern urban community has some bearing on it. The constant nervous strain associated with the busy life in a large American city may be an appreciable factor in producing coronary sclerosis, chronic myocarditis and other degenerative diseases. Sir William Osler used to refer to angina pectoris as the New York business man's disease. In this connection it might be valuable to obtain accurate comparative statistics of a disease like angina pectoris in this country and in a foreign country like China. Personal expression of opinion by physicians who have practised in China, indicate that this disease is much less common there than here. Is this true, and if so, is it due to their mode of living or to the lower protein diet that is prevalent there? Such comparative statistics from China, Greenland, Alaska, etc., might throw considerable light on problems that at present remain unsolved.

In all problems of cardiovascular disease, we must be careful in interpreting animal experiments in the light of human pathology. If rabbits develop arteriosclerosis when fed on a very high protein diet, are we to conclude that a similar mechanism is going on in the human body? If the experiments are valid and the conclusion true, it is a most important fact, and might go far in producing a general reduction in the protein content of our diet.

A word must be said concerning focal infections as to the cause of the chronic degenerative diseases. What rôle do the tonsils, teeth, sinuses, gastrointestinal and genito-urinary tract play in producing these changes? I am sorry to say that we know very little about this. Thousands of people are having their tonsils removed, but has it diminished the incidence of these diseases? It may be too early to answer this question, because tonsillectomies on a large scale are of very recent origin and therefore more time must elapse before the necessary information will be available. A quick and accurate method of approach at the problem concerning the rôle of focal infection, is difficult to construct.

We now come to the last and most important type of heart disease, *i.e., valvular disease of rheumatic origin.* I purposely add rheumatic, notwithstanding the fact that other infectious diseases, on rare occasions, also produce valve injuries, because it is by far the most common cause and, possibly, the only cause of conditions like typical mitral stenosis. I include with rheumatic fever, chorea and acute tonsillitis, with joint or muscle pains. This condition also involves the pericardium and myocardium. It is the type of heart disease that affects such large numbers of our children and young adults, either running a comparatively short and fatal course or—what is much more frequently the case—impairing their health insidiously and producing years of physical disability, often rendering them bed-ridden for many months and terminating in premature death.

Before much progress can be hoped for in the prophylaxis of valvular disease, it will be necessary to find the specific cause of rheumatic fever. At the present time, the best authorities are very skeptical of the streptococci or of the micrococcus rheumaticus of Poynton and Paine as the etiological agent. I gather that Dr. Swift, of the Rockefeller Hospital, takes the view that at present the cause is unknown. Such studies as he is carrying out in search for the cause of inflammatory rheumatism are of the greatest value and of fundamental importance. There are other factors that might throw light on the etiology of this

disease, *e.g.*, the seasonal variation and the family incidence. We have all been struck by the occurrence of rheumatic valve disease in two children of the same family; one may already have the outspoken signs of chronic endocarditis, and then a sister or brother comes down with chorea or inflammatory rheumatism. This type of heart disease is not inherited, like syphilis or hemophilia, and yet there must be something in the constitutional make-up or in the physical environment of some families to make them more vulnerable to valvular disease.

Another problem that deserves our immediate attention is the rôle that the tonsils play in causing valvular disease. Here, again, we must be very cautious in our deductions. The pitfalls are many. If the tonsils are an important portal of entry of the virus of rheumatic fever, then one would expect to diminish the ravages of that disease by early tonsillectomy. Is the incidence of valve disease appreciably less, for example, in a large group of children who have had their tonsils removed, as compared to a similar group living under approximately the same conditions, who have not had their tonsils removed? Dr. Alexander Lambert, in studying the prevalence of rheumatic fever at the Bellevue Hospital, New York, thought that during the past ten years it had diminished, and accredited the change to the frequent tonsillectomy and better dental care that the children were having. It will take many years of careful study to answer this question, and the problem, which is quite laborious, will have to be undertaken and followed by the same observers over a long time. I am told that some such scheme is being planned in the city of Rochester, N. Y. My only fears are that as time goes on, enthusiasm may subside and the results will suffer. For the proper solution of this problem, large numbers of school children must be examined carefully to eliminate those who already have heart disease. For if they are overlooked and subsequently included among those who developed heart disease despite early tonsillectomy, the conclusions will become useless. Inasmuch as such a study is necessarily statistical and comparative in nature it is of the greatest importance that all the data be compiled with extreme accuracy. An undertaking of this type, to extend over many years, deserves the consideration of large philanthropic foundations. No independent man, or group of men, unless working under some such scheme as was established in Framingham for the study of tuberculosis, will be able to accumulate the desired data.

The importance of tonsillectomy, proper care of the teeth, and general hygiene, in patients already showing evidence of organic, valvular or rheumatic heart disease, must also be analyzed. Dr. St. Lawrence, of New York, has followed a small group of such cases, and one is led to believe that the progress of the heart condition is altered favorably by the above prophylactic measures. Such studies are extremely important, but need to be carried out on a much larger scale and over a longer period of time. It is important in relation to all questions to know the exact incidence of rheumatic fever in our communities, the frequency of subsequent heart involvement and the exact prognosis of the different types of complications. Without these facts it will be impossible to interpret properly what changes in the natural course of events we produce by the procedures of prophylaxis.

In the treatment of heart disease, I wish to call attention to but one phase, *i.e.*, the rôle of exercise and rest. There is considerable difference of opinion as to when and to what extent the one or the other should be employed. I have hoped to get more information on this problem by animal experimentation, but as yet have not been able to start the work. It is questionable whether results obtained by one observer in his clinical experience, will be sufficiently convincing to answer this point. It is the writer's opinion that most patients with organic heart disease receive too little rest treatment rather than the reverse. So often patients enter our hospitals with symptoms of cardiac failure and just as they are partially recovered, are discharged, only to develop the same symptoms because of insufficient rest during the convalescence. It would seem, at times, that actually more permanent good might accrue to the community if fewer cardiac patients were admitted to our public hospitals, and if they were cared for thoroughly until some degree of reserve is developed, upon which they may draw when they return even to their restricted activities. Furthermore, our duty is not ended when the patient is discharged from the hospital. A great deal may depend upon the proper advice given at this critical time, concerning the further convalescence, and on our efforts to guide the patient into the right sort of an occupation later. As Mrs. I. M. Duggan, of New York, puts it, "If the proper treatment of a cardiac is not drugs, but a change of occupation, should this not be supplied, just as an operation would be given free to a hernia patient, or quinine to a case of malaria? . . . The cost of finding a cardiac lighter work is far less than the cost to the same hospital of this cardiac, who will return repeatedly for longer and longer periods, if he is allowed to undertake his former occupation."

The above considerations, in a rough way, to be sure, summarize some of the important points that confront those who are interested in the general problem of heart disease. You can see that it is a difficult matter, and until the general public is more clearly aware of its great economic importance, the necessary stimulus for its attack will be insufficient. Furthermore, a great deal of statistical data must be accumulated, and for certain aspects of the

problem, laboratory investigations will have to be carried on. The ideal method of approach would be a concerted effort by a group of investigators working in a community over a long period of time. In the meantime, isolated observations, made in various centers, may. we hope, continue to add to our knowledge and in that way diminish the ravages of organic heart

COMMON PULMONARY DISEASES CONFUSED WITH TUBERCULOSIS.

By Edward O. Otis, M.D., Boston.

Address at the Tuberculosis Institute for Physicians Held under the Auspices of the Boston Tuberculosis Association, October 26, 1921.

Shortly after the armistice in 1918 there was held in Paris, under the auspices of the Research Society of the American Red Cross, a notable conference on tuberculosis of the lungs, participated in by many well-known medical members of the American Expeditionary Forces, as well as some equally distinguished members of the French, English, and Italian medical service. Among others, there were present from our own forces, Brigadier-General W. S. Thayer of Johns Hopkins, Lieutenant-Colonel Webb of Colorado Springs, Major Richard C. Cabot of Boston, and Lieutenant-Colonel E. H. Bruns of the Regular Army, long associated with Colonel Bushnell at the Fort Bayard Sanatorium. From the French Army were the well-known specialists Major Rist and Colonel Sergent, and from the English, Colonel Sir Almroth Wright.

One of the principal subjects in the discussions of this conference was the differential diagnosis of tuberculosis, and the causes of the numerous errors in diagnosis, for it will be remembered that a very considerable number of men of the various forces were removed from service upon the mistaken diagnosis of tuberculosis, and this was especially true as regards the French Army. Dr. Biggs, the Health Commissioner of New York, after a visit to Europe to investigate the extent of tuberculosis there, and especially its prevalence in the armies, stated that 86,000 French soldiers had been returned to their homes with active tuberculous disease, and that by February, 1917, it was estimated that about 150,000 had thus been returned. Subsequent reëxamination of these discharged soldiers revealed the fact that a very considerable proportion of them were erroneously diagnosed, and Professor Sergent and Major Rist, who personally examined several thousand of these cases, estimated that the proportion of such faulty diagnosis might reach a total of 40% of all those who were retired with a diagnosis of tuberculosis.

Again, in England, Glover, of the Birmingham Sanatorium, found that the surprisingly large number of 60% of his sanatorium patients sent in by first-class physicians were not cases of tuberculosis; and Webb, who quotes this statement, further declared that in his experience in our army, he found about the same per cent. of errors in diagnosis, although the examinations were usually made by careful men. Dr. Miller, of New York, says that in his tuberculosis service at Bellevue Hospital, as high as 20% of the cases admitted are not tuberculous. I mention these facts to indicate that a mistaken diagnosis of tuberculosis is not at all uncommon, although we all recognize the fact that the mistake of not making a diagnosis of tuberculosis when it exists is far more common. Furthermore, there must have existed certain symptoms and signs in these cases of erroneous diagnosis which suggested tuberculosis, and in many of them these misleading symptoms must have been connected with the respiratory tract. First, then, we have to consider some of those conditions, or diseases, of this region which simulate tuberculosis. Major Rist —and other authorities agree with him—states that among the frequent errors of mistaken diagnosis are chronic affections of the upper respiratory tract, such as nasal obstruction, causing chronic cough and symptoms of bronchitis or tracheo-bronchitis. There may be, also, diseases of the nasal sinuses, the tonsils, or a chronic nasopharyngitis, which may give symptoms simulating pulmonary tuberculosis, —as, for example, chronic cough, mucopurulent expectoration, and sometimes streaked sputum. On physical examination, there may be some lack of normal resonance at the apex, and what appears to be some modification of the respiration, probably due to deficient expansion of the lung. At times, moreover, there may be some acute symptoms when the patient may show a loss of flesh and strength. The differentiation from tuberculosis in these cases of upper respiratory diseases depends upon the fact that there is, as a rule, no constitutional disturbances indicating a general infection, such as rapid pulse, increased temperature, etc.; that the cough has existed indefinitely, with more or less morning expectoration, without serious effect upon the general well-being; that there are never any tubercle bacilli in the sputum, and that there are really no definite physical signs of apical disease. Therefore, to avoid the error of a mistaken diagnosis of tuberculosis from symptoms caused by abnormalities, or diseases of the upper respiratory tract, always examine this portion.

2. **Influenza:** The condition found at the time of or after an attack of influenza may simulate, and that very closely, an active tuberculosis. One must be sure, however, that the so-called influenza was really that (influenza), and not the beginning of a tuberculous infection, and again one must remember that an attack of influenza may wake up a sleeping tu-

berculous infection. There is a conflict of opinion and experience as to how often this latter event happens, but, granting that the case was one of genuine influenza, we may have as a sequel, —cough with purulent expectoration, debility, frequently loss of strength, and certain physical signs closely simulating those of a beginning tuberculosis, namely râles and impaired resonance below the clavicle, but not above. There are not, however, the constitutional symptoms found in tuberculosis, such as tachycardia, fever, etc., and there are no tubercle bacilli in the sputum. Furthermore, recovery in a true case of influenza takes place in a comparatively short space of time. It must be confessed, however, that such cases of post-influenzal conditions are often very puzzling, and only time may solve the problem. Therefore, in all cases of influenza, frequently examine the sputum and keep the patient under close observation.

3. Bronchitis: The usual case of acute bronchitis is so well defined that there is little chance of error in its diagnosis. The local signs are bilateral and there is no evidence of any involvement of the lung substance. Râles, dry and moist, are found all over the lungs, but the moist râles are not, like the fine ones, found in an apex tuberculosis, and are usually heard over the bases; and here it may be stated, almost as an axiom, that whatever signs are found in the bases, the apices being clear, they do not indicate tuberculosis. Unilateral bronchitis is generally considered to be rare, but I have occasionally found a nest of comparatively fine râles in the middle or lower lobe which I have considered to be indicative of a localized bronchitis, as there was no evidence of lung involvement. Of course, when such râles are found in the base, it may be that they indicate a patch of broncho-pneumonia, but as regards the result, the differentiation is not important, for in either case they will in time generally clear up. As an illustration: A man, thirty-two years of age, consulted me with a history of having recently been in one of the hospitals of the city suffering from some acute respiratory disease, the nature of which he did not know, but from his account, it was probably a broncho-pneumonia. He had consulted several physicians before entering the hospital, and some made the diagnosis of pleurisy, while others that of bronchitis. Before leaving the hospital, a diagnosis of tuberculosis was made, and arrangements were instituted for him to enter a sanatorium. On examination, the only abnormal signs were a nest of fine, moist râles in the base of the left lung, but with no dulness over this area. The sputum was negative from several examinations. I felt obliged to disagree with the diagnosis made, and told the man that, in my opinion, he did not have tuberculosis, and that the signs which I found in his lungs would in time clear up, which they did within a few months, and he subsequently remained well. Sometimes, however, these local râles persist indefinitely, but with apparently no effect upon the general health. Be it said, however, that far more cases of tuberculosis are diagnosed as bronchitis than is bronchitis mistaken for tuberculosis. Chronic bronchitis, as we know, has a history of cough of long duration, with more or less expectoration, but with little deterioration of the general health. The breathing may be harsh or broncho-vesicular, and there are dry and moist râles scattered over the chest. The moist râles, when they exist, are generally at the base and, according to the axiom above stated, physical signs at the base, without evidence of disease at the apex, do not indicate tuberculosis. Furthermore, the sputum is negative. There are, however, cases which simulate, in every respect, chronic bronchitis, which are, or do, become tuberculous, just as cases of pneumoconiosis, after a long period of dust breathing, develop tuberculosis. It is a wise precaution, therefore, to examine the sputum of all cases of chronic bronchitis, for it happens, perhaps oftener than we are aware, that a grandmother, for instance, with supposedly chronic bronchitis, will infect the grandchild with whom she is associated. I can recall at least one such instance. Calmette mentions the fact of the old nurse suffering with what was supposed to be chronic bronchitis, who infected, successively, three children under her care, all of whom died of tuberculous meningitis. Therefore, I repeat again, examine the sputum of all cases of chronic bronchitis.

There is a condition not infrequently met with, perhaps more frequently in children, which is designated by some as a chronic pneumonia, and by others as a subacute or chronic broncho-pneumonia. Tubercle bacilli are never found in these cases, but the most common microörganisms are the penumococcus, influenza bacillus, and streptococcus. There is a history, often vague, of a slight or moderate illness, perhaps lasting but a few days, with marked cough and expectoration, and sometimes hemoptysis. After recovery from the acute symptoms, there generally remains a persistent cough, and on physical examination, one is surprised at the extent of the lesion. There is involvement of a part or the whole of the lobe, indicated by dullness, impaired or modified respiration, and an abundance of moist râles. The significant point is that this infiltration is practically always confined to a lower lobe. The x-ray picture which one would expect to show marked evidence of disease, either shows nothing at all, or some intensification of the normal bronchial shadows. The differential diagnosis of tuberculosis from this class of cases depends upon the absence of tubercle bacilli, the location of the lesion always at the base, and the absence of marked constitutional symptoms. Furthermore, the often rapid recovery

is opposed to the existence of a tuberculous lesion as extensive as the physical signs would indicate. In these cases, the physical signs may persist for several months, and as well, the cough and expectoration, but the general condition of the patient remains good all the while. Such cases as described above are, perhaps, more frequently diagnosed as tuberculosis than any other pulmonary lesion, and are not infrequently sent to the sanatorium. The following case is a good illustration of this class. A boy, fourteen years of age, whose mother had been a sanatorium patient, was referred to me to verify the diagnosis of tuberculosis made by his physician. There was a history of rapid loss of weight, and evidently a temperature of an indefinite period. The boy gave a vague account of some acute attack which, so far as could be determined, lasted but a few days. On physical examination, dulness and abundant moist râles were found at the left base. Otherwise the lungs were negative, as was also the sputum. The cutaneous tuberculin test was also negative, as was the intra-cutaneous, both to 1-1000 and 1-500 dilution. The x-ray, quite to our surprise, showed nothing at all in the left base. Indeed, that portion was the clearest part of the whole plate. At the last examination of the boy, his condition was rapidly improving, and his cough had disappeared. There was much in this case to suggest tuberculosis, especially as it has been taught that pulmonary tuberculosis in children may first be indicated in its local signs by a basic lesion—a statement which I am inclined to doubt. Furthermore, the general constitutional symptoms strongly suggested active tuberculosis. What the boy really suffered from was a low-grade broncho-pneumonia, leaving the condition in the left lung as described.

Bronchiectasis: This pulmonary condition is, in my opinion and experience, not at all uncommon, and can readily be mistaken for tuberculosis. In it you have cough, with purulent expectoration, not infrequently hemorrhage, often with marked physical signs, and clubbed fingers, which I have found much more frequent in this condition than in tuberculosis. As time goes on, there is a gradual physical impairment, loss of weight, shortness of breath, weakness, etc., although a moderate bronchiectasis may exist for many years without any appreciable deterioration of the general condition. There are not those marked toxaemic symptoms associated with such an advanced stage of tuberculosis as the physical signs would indicate. Indeed, after years of the existence of a bronchiectasis, a patient, as I have seen, may give the appearance of a fair degree of health. The physical signs are generally, but not always, confined to the base, and their extent and character will depend upon the size of the cavities and whether or not they are empty. There may be one or more cavities, and if the disease has existed a long time, more or less disorganization of the rest of the lung. The cough is paroxysmal, with expectoration of large amounts of sputum which may be exceedingly ill-smelling. Posture, as leaning over when picking up something from the floor, will often precipitate a paroxysm of coughing and expectoration. The result of the physical signs is often inconclusive and will depend much upon the type of the disease, and the size of the cavity. The differential diagnosis is made from the kind of cough which is paroxysmal, the absence of tubercle bacilli after repeated examinations, and the frequent appearance of good health, even after the disease has existed for a long time. The lesion is generally situated in the middle or the lower lobe and, as has been said above, the fingers are frequently markedly clubbed. If the sputum is fetid, this is another evidence in favor of bronchiectasis, as fetid sputum is rare in tuberculosis. The x-ray is also of value in the diagnosis, for if the cavity or cavities are of any size they will appear in the x-ray picture. As an illustration: A woman was referred to me with a note from her physician saying she had a tuberculous cavity at the upper left chest, and desiring my advice as to treatment. The physical examination of the physician was perfectly correct, for the woman did have a cavity in the location indicated, and there was much disease in the rest of the lung; but she did not have tuberculosis, for the following reasons: She gave a history of having suffered from the disease for seventeen years, and of paroxysmal coughing and expectoration all this time, especially when she leaned over, with head down. Moreover, she appeared to be in tolerably good health, and the sputum was negative as to tubercle bacilli. If such extensive disease had been tuberculosis and had lasted so long, the general appearance which the woman exhibited would not, in all probability, have been present. Of course, paroxysms of coughing occur in advanced cases of tuberculosis, but then we have the other symptoms of advanced tuberculosis,—cachexia, wasting fever, etc. In the case of this woman, the bronchiectatic cavity was in the upper lobe—an exception to the general experience. The history, the character of the cough, and expectoration, the long duration of the disease, the absence of tubercle bacilli on repeated examinations, the healthy appearance of the patient, the clubbed fingers, the physical signs generally at the base, with the x-ray evidence, will generally make a fairly definite diagnosis. Although a person afflicted with bronchiectasis could live in tolerably good health for many years, genuine recovery, in my experience, is rare, and sooner or later the case succumbs. An illustration: A boy, fifteen years old, applied to the Boston Dispensary for cough and a pain in his chest. The cough had lasted two months and was accompanied by thick, mucopurulent

expectoration. The physical examination showed dulness and absence of respiration at the left base. The x-ray showed an apparent area of consolidation in the left base and also an area of consolidation along the margins of the spine at the left of the eighth to the tenth dorsal vertebrae. A diagnosis of abscess of the lung, or bronchiectasis, was made, and he was referred to the hospital for possible operation or artificial pneumothorax. While in the hospital, no definite cavity could be made out, but the x-ray suggested a basic formation considered to be bronchiectatic in character. A portion of the lower left lobe containing the bronchiectatic area was excised, followed with much shock and a long convalescence and continued discharge from the wound. On recent examination, the boy seemed very feeble and anaemic, and on physical examination, the whole left side was flat from top to bottom, and there was absence of tactile fremitus. In another case, with two bronchiectatic cavities where the sputum was most ill-smelling and offensive, irrigation was tried through the bronchoscope and also artificial pneumothorax. Both failed to produce any permanent relief, and the man died.

The following case is quite a remarkable one, both on account of the varying diagnosis and its course. It was in all probability, as events seem to prove, a case of bronchiectasis resulting from a pneumonia. At the age of nine months, the infant had lobar pneumonia. Later it was discharged to the Floating Hospital with a question of unresolved pneumonia, or tuberculosis. Later the child was transferred to a tuberculosis hospital with a diagnosis of tuberculosis, subsequently sent home as an "arrested" case. Again the child entered the State Sanatorium, and after several years spent there, was again admitted to the local Consumptive Hospital, and so it went on, until the child had spent 9½ years of its life in the Sanatorium or Consumptive Hospital, with the diagnosis of chronic bronchitis, bronchiestasis, and far-advanced tuberculosis. The sputum had been consistently negative and, on a recent examination, there was marked dulness and modified respiration, with râles in the left lower lobe. The cough was paroxysmal and the sputum was very fetid. The general appearance of the child—now 12 years of age—was very fair. The diagnosis of bronchiectasis is undoubtedly correct, and there has been no definite proof that it ever was tuberculosis."

Pleurisy: We assert that a large proportion of pleurisies are of tuberculous origin, but I believe that we are not warranted in affirming that all are. Be this as it may, it is a fact that not a few cases of pleuritic effusion permanently recover after aspiration, and remain well for years. Of course, all cases of manifest tuberculosis are generally accompanied by some pleurisy. In an acute pleurisy, with effusion, we may have râles at the apex of the affected side which may mislead us, but they may only mean adhesion, and disappear when the effusion subsides or is removed. Therefore, we should wait before venturing a diagnosis of tuberculosis until the effusion disappears. Again, after an effusion is removed or absorbed, the lung may be slow in expanding, and some fluid may remain indefinitely, and then the question arises, "Are we dealing with the result of a simple pleurisy or with one of a tuberculous nature?" The physical signs may be only those of a partially expanded lung or of fluid. The examination of the fluid, both microscopically and by animal inoculation, may be inconclusive. If the fluid is bloody, it may indicate tuberculosis. If the fever continues, it suggests tuberculosis; but on the other hand, the pleurisy may be of a tuberculous origin, if there is no fever. If physical signs are found at or toward the apex, it strongly suggests tuberculosis. If we cannot make a positive diagnosis from the evidence at hand, one can only wait and watch. It hardly seems fair to make a diagnosis of tuberculosis upon the general principle that all pleurisies are of a tuberculous origin. If they are, then some permanently recover without further tuberculous manifestations, as I have more than once observed.

Pneumoconiosis: The National Tuberculosis Association has for the last year or two been investigating, through a commission, the effect upon the lungs of dusty occupations, especially mineral dust, and Dr. Jarvis, of Barre, Vermont, has been conducting, for this commission, a notable series of investigation among the granite-cutters of his town by means of physical examinations and the x-ray. Some of his conclusions are, that most cutters do die of tuberculosis soon after middle life, but he considers tuberculosis as incidental and an end-result, the lungs previously having been wounded by the inhalation of the granite dust through a long series of years. In some cases, Dr. Jarvis found that when the granite-cutter had been removed from his occupation for a period of time the lungs clear up, as indicated by the x-ray. It is, therefore, not justifiable to make a diagnosis of tuberculosis because a man is, or has been, a stone-cutter, or has been exposed for years to other kinds of irritable dust. He may have a chronic cough, as he generally does, and other symptoms resulting from his occupation, such as dyspnea, or he may have abnormal physical signs, but these are generally confined to the base. Unless, however, tubercle bacilli are found in the sputum on repeated examination, one should be cautious in declaring the man tuberculous. There is evidently a period, more or less long, when the lung condition is a pure penumoconiosis, and a later period when the tubercle bacilli invade the injured lung, and therefore the two conditions should

not be confused and a wrong diagnosis, in consequence, made.

Finally, Gas Inhalation: All of us who have much to do with lung examinations have had more or less experience with returned members of the Expeditionary Force who were, or say they were, gassed, and who are, or say they are, suffering from certain symptoms resulting therefrom. Undoubtedly, many of these symptoms are real and are practically incapacitating. In my limited experience, however, I have never been able to discover from physical examination in any of these gassed, returned soldiers, evidence of pulmonary tuberculosis, and that, I think, is the experience of most men. Some of them, undoubtedly, are suffering from chronic bronchitis, or bronchiectasis, which in time will probably improve, but that gas inhalation conduces to the development of tuberculosis, has not, I believe, in the experience of most observers, been demonstrated.

In conclusion, one final word with regard to the differential diagnosis of pulmonary tuberculosis: There are a certain number of cases of lung condition which can only be diagnosed after long and careful observation, and although there may be a certain amount of evidence pointing toward tuberculosis, it is unjust and often cruel to the patient to make a definite diagnosis of tuberculosis without good and sufficient evidence.

POSTDIPHTHERETIC DISSEMINATED MYELITIS, WITH REPORT OF A CASE.

By Hale Powers, M.D., Brookline, Mass.

[From the Neurological Department of the Massachusetts General Hospital.]

In view of the frequency of peripheral nerve involvement in diphtheria, it is probable that postdiphtheretic lesions of the central nervous system are not so rare as their infrequent mention in the literature would indicate. I have been able to find disseminated myelitis or sclerosis following diphtheria reported only seven times, therefore it is feasible to preface this report by a review of the literature of this form of myelitis.

At the present time usage is unfixed, so that by some authors the terms desseminated myelitis and multiple sclerosis are applied as though synonymous and interchangeable. Oppenheim applies the former term to "those cases in which all of the lesions have developed acutely," and the latter term to those cases in which the condition has been of gradual development. It seems better to regard disseminated myelitis as an acute or chronic condition that may or may not terminate in disseminated sclerosis, and to assume that all conditions of disseminated sclerosis are the result of disseminated myelitis, either acute or chronic. This indicates a simple rule for the use of the two terms, the former being the more inclusive. The outcome of the case rather than its mode of onset, would then determine whether it be called myelitis or sclerosis, for myelitis may terminate either in recovery or in sclerosis.

In 1883, Pierre Marie published an article entitled *"De la sclérose en plaques chez les enfants,"* and in 1884, *"Sclérose en plaques et maladies infèctieuses,"* an extremely important contribution. Marie said that Charcot had told him that in Germany the connection between *sclerose en plaques* and infectious diseases had attracted the attention of physicians. He refers to "the remarkable work of Kahler and Pick," who in 1879 "assigned for the cause, the action on the nervous centers of inferior organisms." He cites eleven cases following typhoid fever, three cases following pneumonia, two cases following erysipelas, one case following dysentery, one case following cholera, and one case following diphtheria.

This last case was reported by Stadthagen in 1883, but Marie had read only a review in *Centralblatt für Medecin,* and he seems to imply some skepticism when he says: "The author considers this affection as one of *sclérose en plaques.* We have been unable to consult the observation *in extenso* and are obliged to content ourselves with the analysis of the *Centralblatt."* In 1883, the year of the discovery of the Klebs-Loeffler bacillus by Klebs and the year previous to its isolation by Loeffler, Stradthagen reported his case under the title of *"Herdförmige Sklerose nach Diphtherie,"* a nine-page article in *Arkiv für Kinderheilkunde.* The patient, an eleven-year-old boy, had diphtheria at the age of four, with paralysis of the palate and polyneuritis. He dragged the right foot and, later, the right arm became weak. Still later, bulbar symptoms developed and there were choreiform movements and intention tremor, and the gait was spastic. However, nystagmus and diplopia were absent, and here is the gap in the picture that I suppose made it, to Marie, unconvincing.

The second case was reported by Schoenfeld, Berlin, 1888; the third, by Schoenfeld, Berlin, 1888; the fourth, by Henschen, Upsala, Sweden, 1896; the fifth by Redlich, Wein, 1906 (or earlier); the sixth, by Ritter, mentioned by Oppenheim; the seventh, by Oppenheim, Textbook, and the eighth is the one now reported.

Pathological findings in this condition were first reported by Prof. S. E. Henschen of the University of Upsala, Sweden, in his article, *"Akute disseminirte Rückenmarks-Sklerose mit Neuritis nach Diphtherie bei einem Kinde," Fortschritte der Medecin,* 1896. The patient was a girl of fourteen who had all of the clinical signs of diphtheria during an epidemic of the disease. A culture from the throat seems

not to have been made. She was seen by Henschen a week after the onset and then complained of tingling sensations and other paraesthesias in the lower extremities. Two days later, she could not walk without support. Patellar reflexes were at first increased and afterward lost. Ankle jerks, plantar and abdominal reflexes were also abolished. There was atrophy of muscles, including sterno cleido mastoids and trapezii. Accommodation was lost. Visual fields were contracted "in the upper half," and there was "hyperaesthesia in the lower half of the visual fields." Pupils reacted slowly to light, there was slight bilateral ptosis. Urine was retained and bowels were paralyzed. There was anesthesia everywhere below the level of the nipples. Thermal sense was lost in the lower extremities, also position sense and muscle sense. There was no response to Faradism in the lower extremities and diminished response in the arms. The Psyche was intact. After two weeks, motility began to return, so that, six weeks after the onset, motility of the right upper extremity is said to have been good and the lower extremities improving. Sensation was also improving, but the bladder and rectum remained paralyzed. Ten weeks after the onset, the patient contracted broncho-pneumonia and died. The pathological findings may be summarized as follows: Spinal cord, dura normal, pia normal. Surface of cord, macroscopically, normal; microscopically, areas of disseminated myelitis and of sclerosis. Myelin sheaths often destroyed and axis cylinders to a less extent. Proliferation of neuroglia cells. Destruction of anterior horn cells, grey substance elsewhere being unchanged. Thickening of vessel walls. No haemorrhages are mentioned. Dorsal and lumbar regions are much changed and cervical only slightly. Roots and peripheral nerves degenerated. Klebs-Loeffler bacillus not found in the tissue. "Diagnosis — acute disseminated sclerosis, with neuritis." "Such anatomical findings after diphtheria, seem not hitherto to have been made."

Redlich's case is reported in *Deutsche Klinik*, 1906. *"Ueber multiple Sklerose,"* a very complete discussion citing many authorities. He concludes that heredity, congenital defect and psychic trauma are of little or no importance, and that acute infections are the usual cause, mentioning cases following typhus, variola, pneumonia, erysipelas, diphtheria, measles, scarlet fever, dystentery, cholera, influenza, angina, rheumatism, and one case of Spiller's in which aestivo autumnal malaria was the apparent cause. Then he refers to a postdiphtheretic case earlier reported by himself. This case first presented a typical diphtheretic polyneuritis, and in the course of a year, the picture of multiple sclerosis. He also refers to Henschen's case. and that of Ritter, whose case is mentioned by Oppenheim.

REPORT OF A CASE.

A boy, aged ten, came to the hospital on January 15, 1921. Family history and past history were negative. One month before, he had had a sore throat and his physician, although deferring diagnosis and not taking a culture, gave him 1000 units of diphtheria antitoxin, as a precaution. His present condition was said to have developed during this illness. At the time of his first visit to the hospital he was unable to walk without much assistance. His speech was indistinct. He had no headache and was not lethargic. He could not sleep well. For some time, fluids escaped from the nose when drinking, but he had recovered from this symptom. The sphincters had not been paralyzed. Examination—Development corresponds to age. Heart—Systolic murmur, transmitted to axilla. Rate 88. Rhythm regular. Tonsils diseased. Fundi normal. Pupils equal, regular in outline and react normally to light and in accommodation. Nystagmus—Lateral, with quick phase to the right, on looking to either side. No diplopia. Slight double pstosis. Ataxia present. Large error in finger-to-nose test. Romberg positive. Gait ataxic, with feet far apart. Some incoordination of upper extremities. Slight intention tremor. Adiadocokinesia. Knee jerks and ankle jerks absent. No lateral curvature of the spine. Keeps head flexed. Tactile sense normal. Vibratory sense normal. Mental state good. Culture from throat does not contain diphtheria organism. Diagnosis—disseminated myelitis and polyneuritis.

January 28th—General condition and gait improved. Nystagmus and ataxia still present. Accommodation weak. Speech still very indistinct. Says "mall" for ball, but after several attempts succeeds in saying ball. Cannot walk without assistance.

February 4th.—Much improved. Can walk without assistance, for a short distance. Diplopia on looking to either side.

February 14th. Left knee-jerk obtained. Right not obtained. Can now hold a full glass of water but still has some intention tremor.

April 22nd.—Still has nystagmus. Both knee-jerks are easily obtained, but right is less than left. Less ataxia. Tonsilectomy now advised.

October 14th.—Only a suggestion of nystagmus. Otherwise neurological examination is negative.

Henschen mentions early experimental work done by Enriquez and Hallion who, by injecting diphtheria toxin into dogs, produced haemorrhagic lesions of nerve roots and in the white substance of the cord. Henschen uses the word "toxin," but whether he means that they used toxin alone, or with living bacilli, I do not know, and I have not read the original report of these investigators. In 1895, J. Crocq, Jr.,

produced disseminated sclerosis in dogs in two ways: first, by inoculating them with diphtheria bacilli, and second by injecting the toxin alone. In more recent years, a number of workers have produced disseminated myelitis in animals by the injection of cerebrospinal fluid and blood from human cases intraventricularly, intraperitoneally and subcutaneously, and in some of the animals a spirochete, differing from the spirochete of syphilis, has been found.

Of the eight cases, our own is the only one in which antitoxin was given. The picture of disseminated myelitis was complete, but apparently in this case, myelitis has not terminated in sclerosis. As the early work of J. Crocq, Jr., demonstrated that toxins alone, without the presence of the living organisms, were capable of producing myelitis, it would seem possible to arrest the progress of a case by using the appropriate antitoxin, were we in possession of it. From Crocq's work we may infer that attempts to produce an active immunity by the introduction of toxins are contraindicated. Personally, I admit having tried this in two nondiphtheritic cases, and the condition progressed during the treatment, although an arthritis complicating one of the cases, improved.

As my diagnosis may be questioned, I would emphasize the following points: While not infrequently a polyneuritis will produce motor disturbances resembling the ataxia produced by lesions of the cord or of the cerebellum, these latter conditions are known to occur in diphtheria. I believe that it is possible for an experienced observer to distinguish between those disturbances of motor function resulting from the muscular weakness of peripheral neuritis and a true ataxia. Nystagmus of the type observed in this case cannot be accounted for by peripheral neuritis. That there has been complete functional recovery is not evidence that myelitis did not exist. In Henschen's case there was partial recovery, and in three cases of post-diphtheritic ataxia reported by Wilson in Archives of Neurology and Psychiatry, August, 1919, there was complete recovery in one.

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ABNORMAL MENSTRUAL HISTORY, FOLLOWED BY PREGNANCY.

BY CHARLES J. KICKHAM, M.D., BOSTON,

Obstetrician to St. Elizabeth's Hospital.

THE following history is interesting from a menstrual and marital standpoint, and the speculative diagnostic possibilities.

Mrs. S., aged 29. Married twice. Occupation, housewife. Family History—Father and mother well and living. Three sisters, all normal in regard to menstrual as well as general health. Past History—Usual children's diseases; otherwise well.

Present Illness—Patient had first menstrual flow at age of 13; this consisted of a "blackish fluid," which lasted about four hours. Her next menstruation came five years later at age of 18 and was of same character,—a "blackish fluid." One year previous to this, at age of 17, patient married. At age of 24 patient first consulted writer and came for examination to see why she "did not menstruate or get pregnant, like other girls." Previous to this, she had no menstrual periods, except as above, namely, at ages of 13 and 18; during these years she developed normally in general sexual characteristics, except that during the last five years she has grown "fleshy"; during this time she has had no nose-bleeds or other types of abnormal bleeding which might be construed as vicarious menstruation. Her general health has been excellent, except that she has noticed increased nervousness, with adiposity and that she "tires" easily.

Physical Examination in 1916.—Fatty type of woman, pale, acting as though under nervous strain. Eyes a little prominent but not protuberant; pupils equal and react to L. and D.; tongue protrudes straight but tremulous; teeth and tonsils good. No enlargement of thyroid made out. Skin soft and not dry. Heart—Sounds clear and regular but a little rapid; no enlargement. Lungs—Clear throughout. Abdomen—Examination difficult because of fat abdominal walls, but nothing abnormal made out. Vaginal—External genitals normal; vagina normal; cervix small, with pin-point external os; uterus small, of infantile type, with medium anteflexion; uterus freely movable and nothing abnormal made out in ovaries or tubes. On upper lip and chin considerable growth of coarse hair; also hair present over sternum and on lower limbs in large quantities. Voice high pitched and tremulous.

At this time patient was studied with care and was considered an example of endocrine disturbance, and as our knowledge of the endocrine system was even less five years ago than today, the exact type was in doubt; for the next six months patient was treated with thyroid extract, ovarian extract and corpus

luteum, and combinations of these and one or two other drugs, but all without effect. At this time patient became discouraged and desired some operative treatment as she felt that some "internal" trouble must be the cause. No operative surgical treatment seemed of value, but in my interne days it was not uncommon to dilate the cervix and sew in a stem pessary in an infantile uterus, with the hope that the stimulation of the foreign body might help the condition, and I therefore performed this operation, but, I am frank to say, with no faith in its value. The pessary remained in only two weeks and then was removed because of discomfort. Two weeks following the removal of the cervical pessary, patient flowed for six days, normal red blood, the first time that this had occurred in her life. Shortly after this date patient moved from this locality and was lost track of until March 15, 1921. On this latter date patient came to writer's office for examination as she "felt her abdomen getting heavy."

Her history from time of operation in 1916 to March, 1921, has been this: Since operation in 1916 she has flowed one week out of each year; the flow has been red blood and saturated about three napkins per day; the flow each year has been one week nearer the preceding year, as 51 weeks and then 50 weeks, etc. Two years ago, because of her sterility as well as other family reasons, she became estranged from her husband and a divorce was obtained. In April, 1920, she married again (this man of Greek nationality) and in June, 1920, had her regular yearly period of menstruation. Since that time has been well until the last two months, when she noticed increase in weight in lower abdomen which she thought was probably due to excessive abdominal fat. Examination on March 15, 1921, showed a pregnant uterus, with foetal heart sounds heard to confirm diagnosis (patient could hardly believe diagnosis correct). From examination diagnosis made, of about 34 weeks' duration, and expectant date May 1, 1921.

Patient went into labor on May 19, and delivered by forceps of healthy baby; patient and baby had normal post-partum period and were discharged in good condition.

Comment. The flow of "blackish fluid" at 13 and 18 years of age was probably an abortive attempt at regular menstrual flow, and she had, without question, an endocrine disturbance; but her flowing red blood following operation raises the question whether this was the result of operation or her treatment previous to this with glandular extracts, or possibly a combination of both. Her pregnancy after remarriage may have been due to sterility on part of first husband or supervirility on part of second, or possibly a coincidence. Why she should menstruate only one week out of every year is puzzling.

Current Literature Department.

ABSTRACTORS.

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LAURENCE D. CHAPIN — CHARLES H. LAWRENCE
AUSTIN W. CHEEVER — HERMAN A. OSGOOD
ISADOR CORIAT — EDWARD H. RISLEY
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ROBERT M. GREEN — JOHN B. SWIFT, JR.
JOHN B. HAWES, 2D — WILDER TILESTON
JOHN S. HODGSON — BRYANT D. WETHERELL

So-Called Congenital Dislocation of the Shoulder Posterior Subluxation.

TAYLOR, ALFRED S. (*Annals of Surgery*, September, 1921), writes as follows:

Since there is no case on record where in a birth palsy case a posterior subluxation of the shoulder has been found at birth—since obstetricians connected with three of the large lying-in hospitals of New York City have never seen a single instance of the association of the two at birth; since, after a search during seven years, the author has never been able to find posterior subluxation in any birth palsy case less than six weeks old—he is forced to believe that "congenital posterior subluxation of the shoulder" does not occur in birth palsy cases and therefore cannot be the cause of the palsy.

The term "congenital" should be discarded in this connection.

Since the author's series shows no dislocation present up to six weeks of age, but shows its presence in 77 per cent. of the sixty cases six weeks and more old, it is obvious that the dislocation is a sequel of the paralysis.

That the paralysis results from nerve injury is evidenced by these facts:

Nerve lesions have been found and resected in a large number of operative cases where they could not have been the result of injury to the shoulder. The area of cicatricial nerve damage was widely separated from the shoulder joint structures which appeared of normal texture except for the contracture in some of the anterior muscles.

The nerves were torn across, avulsed from the cord, or shredded and cicatrized.

Treatment of the dislocation is:

Preventive.—By maintaining correct posture and using physical therapeutics from the time of birth until the muscle balance is sufficiently restored.

Surgical.—Nerve repair when indicated, supplemented by the Sever operation when the dislocation is irreducible. These operations are to be followed by postural treatment and physical therapeutics until the muscle balance is sufficiently restored.

[E. H. R.]

The Values of the Various Methods of Bone Graftings Judged by 1390 Reported Cases.

MCWILLIAMS, CLARENCE A. (*Annals of Surgery*, Sept., 1921), says:

From 1390 bone graftings we find:

1. That there were 82.3 per cent. of successes with 17.6 per cent. of failures.
2. In the order of successes, we have:
   a. With bone pegs, 95.8 per cent. were successful.
   b. With the osteoperiosteal method (Delagenière), 87.3 per cent. were successful.
   c. With the end-to-end method (without inlaying), 82.5 per cent. were successful.
   d. With the inlay method, 80.9 per cent. were successful.
   e. With the intramedullary method (Murphy), 76.6 per cent. were successful.

f. With the combined intramedullary (at one end) and the inlay (at the other), 60 per cent. were successful.

3. The presence or absence of periosteum seems to exert no influence on the success of bone grafts. Proportionately, the percentage of successes without periosteum (82.3 per cent.) is the same as with (82.9 per cent.). In the end-to-end method, there were 18 per cent. more successes than failures without periosteum, and in the inlay method, 9 per cent. more successes without periosteum than with, while, on the contrary, with the intramedullary method, there were 13 per cent. more successes with grafts with periosteum than without. It is difficult to explain the cause of the differences in the various methods.

4. Suppuration occurred in 121 cases, or 8 per cent.; 32 per cent. of these succeeded. Suppuration is the most frequent cause of non-success of graftings, with insufficient immobilization and too short duration as the second most frequent cause.

5. The conclusion is reached that the most successful method of bone grafting is by the osteoperiosteal method (Delageniere). The bony defect should be filled in with small bone chips, and on one or two aspects, overlapping the ends of the fragments, covering in the bone chips, should be placed one or two strips of periosteum with adherent, osseous plaques, taken from another bone. This method is as applicable to large as to small bony defects.

6. The cause of many non-successes is due to defective immobilization, or to undue curtailment of its duration. From four to six months' immobilization is ordinarily required for complete success.

7. There is sufficient evidence to prove that the most effectual treatment of non-union of fractures is bone grafting.

8. The causes of failures of bone graftings, summarized, are:

a. Improper method of grafting.
b. Suppuration.
c. Insufficient immobilization, or over too short a period of time.
d. Fracture and dislocation of the grafts.
e. Atrophy of the ends of the bone to be grafted.

9. The intramedullary method of grafting should be discarded.

10. Despite a few opinions to the contrary, bone graftings should not be performed in infected fields.

[E. H. R.]

THE BILIARY OBSTRUCTION REQUIRED TO PRODUCE JAUNDICE

MCMASTER AND ROUS (*Jour. Exp. Med.*, XXXIII, 6, June, 1921).

The writers find that the bile ducts from three-fourths of the liver substance in dogs and monkeys can be obstructed without causing clinical evidence of jaundice. In the dog, nineteen-twentieths of the liver substance can be placed in stasis without the occurrence of tissue icterus such as regularly follows total obstruction. Always a local obstruction results in atrophy of the affected part with compensatory hypertrophy elsewhere.

The amount of biliary obstruction required to produce jaundice in humans is probably as great as in experimental animals, the writers believe. They state that the clinical jaundice encountered with local liver lesions should be viewed not as the result of local bile resorption, but as due to a general injury to the hepatic parenchyma or ducts, or to blood destruction. [C. H. L.]

IS PAGET'S DISEASE OF THE NIPPLE PRIMARY OR SECONDARY TO CANCER OF THE UNDERLYING BREAST?

KILGORE, A. R. (*Archives of Surgery*, Sept., 1921), writes as follows:

From the point of view of intensive study of the condition, the term "Paget's disease" should be limited to those lesions presenting the typical histology: (a) epithelial hypertrophy; (b) subepithelial round-cell infiltration; (c) Paget's cells.

All the cases of Paget's disease reported, however, as well as Case 5 and Martin's case (not true Paget's disease), emphasize the importance of removing the entire breast for any chronic, persisting nipple eczema or ulcer, regardless of the apparent presence or absence clinically of deeper breast changes. At operation, the decision for or against axillary dissection should depend, not on frozen section diagnosis of the nipple condition between true Paget's and other eczemas, but on the pathologic condition of the breast itself. The best procedure is amputation of the breast with a wide zone of skin, using the knife cautery in cutting across the lymphatics leading to the axilla, and proceeding immediately to the axillary dissection if any gross or frozen section evidence of cancer be found in the excised breast.

Three cases are reported demonstrating that Paget's disease is usually primary to cancer of the breast which has been found constantly in association with it. In one of these cases no change whatever had as yet occurred in the breast, and in two cases the early changes of what was probably duct carcinoma had begun when the breast was excised. A fourth case is reported in which all the evidence of history and pathology points to a reversal of this order, the cancer in the breast apparently originated first, and was followed by Paget's disease of the nipple. If the deductions in this case are correct then both schools in the controversy over the primary or secondary nature of Paget's disease have been right, since either order of events may occur.

Three stages in the process by which we believe cancer in the underlying breast develops Paget's disease are illustrated by the various cases reported. Figure 1 shows the condition, limited to the surface; Figure 3 shows the condition in course of extension down the ducts from the nipple, while Figure 4 is from a case in which the process had extended to the deep ducts. The picture resembles closely that of duct cancer. The final stage in which the cells plugging these deep lying ducts break out into the connective tissue and give rise to scirrhous cancer was not found in this series but has been observed by other authors. [E. H. R.]

SQUAMOUS-CELL CARCINOMA OF THE URINARY BLADDER

SCHOLL, ALBERT J., JR. (*Archives of Surgery*, Sept., 1921), writes as follows:

Under certain conditions, such as trauma and infection, the mucosa lining the urinary tract undergoes extensive epidermization.

These areas of metaplasia, or, as they are termed, leukoplakia, have a predisposition to form squamous-cell carcinomas of a very high degree of malignancy.

Six cases of squamous-cell circinoma of the bladder are reported: five of the patients died shortly after the disease was discovered. [E. H. R.]

ACUTE PLEURAL EMPYEMA

WADE, H. (*British Medical Journal*, September 10, 1921), discussing empyema and its treatment, summarizes his opinions on this subject as follows:

1. A combined cytological and bacteriological examination of the fluid withdrawn should be more widely employed, as offering the prospects of affording fuller and more accurate data on which to found our operative treatment.

2. Suppuration within the pleural cavity is especially suitable for treatment by methods which obviate the necessity for opening the chest, or by methods where an immediate or early closure after it has been opened are carried out.

3. The value of the treatment by aspiration alone should be again carefully reviewed.

4. The value of methods where, after aspirating

the contents, an antiseptic is introduced, such as Murphy's method, where 2 per cent. formalin in glycerin is introduced, should be further considered.

5. Where simple drainage is practised, the ideal opening is not only one which allows free escape of the purulent content at the time, as when a rib is resected, but it should also be such as will readily seal itself off when the tube is withdrawn, as when minor intercostal thoracotomy is performed.

6. The benefits to be derived from a free opening of the pleural cavity by major intercostal thoractomy warrant its employment in cases which give promise of developing into chronic and persistent cases.

7. The value of disinfection and immediate closure in these cases should be more fully tested.

8. The Rutherford Morison technique is the best at present available for carrying out the same.

[J. B. H.]

VISCERAL SYPHILIS

ALLBUTT, T. C. (*British Medical Journal*, August 6, 1921), discussing visceral syphilis with a special reference to that of the central nervous system and cardio-vascular system concludes his remarks as follows:

I. That the syphilitic process may be seen in little in the primary sore.

II. That wherever it be found it consists in a lymphparteritis with consequential irritative and atrophic effects.

III. That the division of syphilis into time periods —as primary, secondary, tertiary, and visceral—is based upon superficial characters, and is misleading.

IV. That the pyrexial phase, slight as it may be, indicates a general syphilitic sepsis, in which the cerebro-spinal system is soon involved.

V. That early necropsies have shown that in the pyrexial phase the aorta, brain, liver, and other viscera become infected; and that the cerebro-spinal system does not long escape.

VI. That lumbar puncture should be made soon after the onset of the pyrexial phase, and the cerebro-spinal fluid tested from time to time parallel with the blood testing. [J. B. H.]

INTUSSUSCEPTION: AN ANALYSIS OF THIRTY-SIX CASES

EDINGTON, G. H. (*British Medical Journal*, September 10, 1921), summarizes his investigations as follows:

1. Marked preponderance in males; frequency three and a half times as great as in females.

2. Majority (68 per cent.) of cases occurred in the first year, and of these the average was 6.15 months.

3. More than one-third of the cases were of the ileo-caecal (including caeco-ileo-caecal) variety.

4. Visible proof of etiology was not found at operation.

5. Death rate (40 per cent.) largely depended on length of interval before operation, and, secondary, to this, on gangrene; it was highest in ileo-ileal cases.

6. Resection gave invariably fatal results.

[J. B. H.]

THE PROTEAN APPLICATIONS OF ANTIGEN THERAPY IN PRACTICE

LYON-SMITH, H. L. (*The Practitioner*, August, 1921), is evidently a great believer in the use of vaccines and vaccine therapy in all known conditions even including diabetes. Among other diseases which he quotes as having been treated by himself with good results with vaccines he mentions rheumatic fever, pneumonia, pleurisy, bronchitis, otitis media, endocarditis, peritonitis, appendicitis, tonsillitis, largyngitis, pyelonephritis, cystitis, juandice, puerperal fever, osteo-myelitis, dermatitis of various forms, impetigo, cerebro-spinal fever, typhoid fever, scarlet fever, measles, mumps, boils, carbuncles, disseminated sclerosis, erysipelas, polyarthritis, pernicious anaemia. He admits that one of his two cases of pernicious anaemia has died although the other is still alive.

Among his recommendations as to diet which, were it possible to carry out such recommendation in this country, would be received with enthusiasm, is as follows: "Unless the patient strongly objects, good port or burgundy, or stout which is free from the acidity of secondary fermentations."

[J. B. H.]

A "COURSE" OF VACCINES

MCKENDRICK, A. (*The Practitioner*, August, 1921), in a short article is apparently an equally enthusiastic believer in vaccines. [J. B. H.]

ASTHMA AND ALLIED DISORDERS

ROLLESTON, H. (*British Medical Journal*, August 13, 1921), discusses the subject of asthma in a general way referring to the question of heredity and its relation to the onset of symptoms. He takes up the subject of acquired hypersensitiveness to proteins, the limitations of the skin tests and treatment. He emphasizes the importance of prophylactic treatment; in other words, the avoidance of the foreign proteins to which the patient is sensitized. He speaks of the difficulties of specific desensitization owing to the fact that patients show multiple sensitization. Failure may be due to several factors: bacterial infection may complicate pollen fever and a vicious circle result, each favoring the other so that before a cure it will be necessary to employ vaccine treatment for both these factors. He further discusses the various methods of non-specific treatment such as the use of peptone, etc., and finally takes up symptomatic treatment. He brings up the following points for further investigation and discussion:

1. Is all asthma, excluding cardiac and renal dyspnoea, due to hypersensitiveness, or is there a residue of true reflex asthma?

2. Is there a metabolic asthma due to auto-sensitization?

3. Is hypersensitiveness, apart from that due to injections of serum, ever acquired *de novo* and without an underlying inborn tendency?

4. What is the relation of asthma associated with bronchial or other infections and not giving positive skin tests to the more characteristic cases in earlier life? Are they acquired?

5. What percentage of normal persons who have never had any clinical manifestations of protein sensitiveness give positive skin tests?

6. Limitations of the skin tests. The reasons for failure—antigen unrecognized or altered in preparation; local sensitiveness; desensitization by an attack.

7. Treatment. Specific. Limitations of subcutaneous desensitization of alimentary sensitiveness. Non-specific peptone treatment.

These points are taken up by Freeman, Wallis, Coke and others. [J. B. H.]

DETERMINATION OF THE BASAL METABOLISM FROM THE CARBON-DIOXIDE ELIMINATION

KING, J. T., JR. (*Johns Hopkins Hospital Bulletin*, September, 1921), describes his method of the determination of basal metabolism from the carbon-dioxide elimination and summarizes his article as follows:

1. The apparatus needed to collect and weigh CO_2 is simple and stable.

2. The method is "open." This prevents danger of possible respiratory infection, for which the "closed" methods have been criticized.

3. By weighing the CO_2 output one needs to make no corrections for temperature and barometric pres-

sure, such as becomes necessary in using volumetric methods of O_2 consumption.

4. The psychic effect upon the patient that accrues from this open method are as follows:

(a) He may be assured that he is breathing "fresh air."

(b) The moving spirometer and the buzzing fan, often part of the "closed" apparatus, may form an annoyance to the patient.

5. Statistical studies upon protocols of two groups of experiments with the Atwater chamber calorimeter show a somewhat higher coefficient of correlation between CO_2 and measured calories (plus .719 and plus .846 in the two series than exists between O_2 and measured calories (plus .488 and plus .836 in the two groups).

6. An analysis of 157 published observations upon gas exchange showed that CO_2 is either not "washed out" during the practical application of the basal metabolism test, or else it is "washed out" in negligible amounts.

7. Results of measurements of CO_2 obtained through the method suggested in the paper corresponded closely with those published by Benedict and associates.

8. The practical application of the proposed method has been satisfactory in several hundred observations upon all types of patients. The method should not be used in diabetes because of the altered respiratory quotient in that disease. [J. B. H.]

The Localization of Bacteria in the Upper Air Passages: Its Bearing on Infection

Bloomfield, A. L. (*Johns Hopkins Hospital Bulletin*, September, 1921), presents the results of an elaborate series of experiments concerning the localization of bacteria in the upper air passages and concludes that:

(1) Aside from the normal flora, bacteria do not, as a rule, grow free on the mucous surfaces of the upper air passages.

(2) Special conditions are necessary to account for the presence of foreign organisms—either a local infection, or a transient invasion.

[J. B. H.]

The Swelling of the Arm After Operations for Cancer of the Breast—Elephantiasis Chirurgica—Its Cause and Prevention

Halsted, W. S. (*Johns Hopkins Hospital Bulletin*, October, 1921), in an article with numerous excellent illustrations discusses this complication of the operation for breast cancer which he calls surgical elephantiasis. He does not come to any definite conclusions but makes certain suggestions in regard to the operative technique which he hopes will assist in preventing this difficult and annoying complication. [J. B. H.]

Renal Efficiency Tests

MacLean (*British Medical Journal*, September 17, 1921) discusses the functions of the healthy kidney and emphasizes the importance of the estimation of blood urea and non-protein nitrogen. He describes the various methods for determining such estimations and makes a general survey of the various methods of examination of renal patients. [J. B. H.]

Problems Presented by Hemorrhage in Connection With Operations on the Tonsils

Kelly, A. B. (*British Medical Journal*, September 17, 1921) and others discuss the various problems presented by hemorrhages following operations on the tonsils. Kelly presents the statistics of serious and fatal hemorrhages; O'Malley, J. F., takes up the conditions predisposing to hemorrhage in tonsil operation such as age, sex, menstruation, abnormality of the blood vessels, arterio-sclerosis, purpura, etc. Among prophylactic measures he mentions the use of calcium lactate, horse serum, human blood serum, hemoplastin, coagulose, adrenaline and others.

Tilley, Moore, McKenzie, Just, Barton, Woodman, Chubb and others take up the details of operative and post-operative technique, including posture and the various methods of anesthesia. [J. B. H.]

Stillbirth: Its Causes, Pathology, and Prevention

Browne, F. J. (*Edinburgh Medical Journal*, September, October, 1921), in an elaborate article discussing the subject of stillbirth, takes up the question of pathology and urges adequate antenatal supervision of every pregnant woman in order that the present high morbidity rate from cerebral hemorrhage be diminished and, in his opinion, in no other way can this high morbidity rate in cerebral hemorrhage be diminished. His ideas in regard to the prevention of cerebral hemorrhage as a cause of stillbirth are as follows:

(a) Avoidance of breech deliveries, by cephalic version of breech presentations at a period when this is always possible, *viz.*, not later than the seventh or eighth month.

(b) Avoidance of difficult forceps deliveries; this is only possible by antenatal supervision of every case.

(c) Avoidance of induction of premature labour, certainly before eight months; better still, before eight and a half months.

(d) Manual dilatation of the parturient canal for the passage of the premature infant and preservation of the membranes unruptured as long as possible. We shall see later that the latter has also an important bearing on the question of infection of the newly-born infant.

In the next number (October) he further discusses the question of syphilis as a cause of stillbirth. He summarizes this subject as follows:

1. Out of 200 cases of stillbirth and neonatal death syphilis was the cause of death in 35 or 17.5 per cent.

2. In the presence of a history of repeated abortions, stillbirths or neonatal deaths, a diagnosis of maternal syphilis should be made, and treatment instituted even though the Wassermann reaction is repeatedly negative, provided other obvious and easily ascertained causes can be excluded, such as chronic Bright's disease.

3. A positive Wassermann reaction in these cases is very significant, but a negative reaction has little value, especially in cases of old-standing infection.

4. None of the cases had undergone adequate treatment during pregnancy.

5. In most cases histological examination of the foetal organs, especially the thyroid, thymus, lung and liver is necessary before deciding that a case is, or is not syphilitic. In the absence of a positive Wassermann reaction in the mother, and in the presence of a suspicious obstetrical history, histological examination will generally afford conclusive evidence. [J. B. H.]

Description of an Organism Obtained From Carcinomatous Growths

Young, J. (*Edinburgh Medical Journal*, October, 1921) in an article with numerous microphotographs brings up once more the question of a bacterial origin of cancer, summarizing his ideas on this subject as follows:

"From a considerable number of cases of carcinomatous tumors an organism with a specific life cycle has been isolated. The younger stage is minute,

being just recognisable under the highest power of the microscope. This phase is derived from a germination of "spore" forms and it grows best in a highly acid fluid medium. It would represent the stage during which the original infection occurs. This stage has not been cultivated separately, because it quickly passes into a somewhat larger phase (coccoid or bacillary, which grows well at ordinary temperatures when transferred to a plate medium. This phase passes into a comparatively large sporing phase, in which it may remain dormant for long periods. The investigations open up the possibility that the smaller phases may ordinarily be passed in the nucleus of the cancer cell. If this is so it becomes likely that the proliferation of the cells is due to the stimulus of the intranuclear parasite, and the continued and uncontrolled proliferation that characterises a malignant growth would thus be explained by the fact that the daughter nuclei carry with them one or more germs in the dividing or vegetative phase. Finally, a record of three malignant growths apparently produced in healthy mice by the injection of the cultures tends to support the belief that the organism may possess some etiological relation to tumor growths."

[J. B. H.]

Some Uses and Doses of Hypnotics

Wyatt-Smith (*The Practitioner*, September, 1921) in a practical and useful article discusses the uses and doses of various hypnotics. The summary of his paper is as follows:

1. I do not believe there is any danger of producing an addiction to hypnotic drugs by their intelligent medical use.
2. Opium, and its products, should never be regarded as hypnotics.
3. The bromides are of little practical use as such.
(4. Bicarbonate of soda and night-socks have far better right to the title.)
5. Chloral hydrate is, perhaps, the most generally useful of the cheaper hypnotics; and is, probably, not very dangerous even in cases of fatty heart.
6. Paraldehyde is the best mere nightcap in mild cases, and is useful in a dose up to half an ounce with the first dose of some other hypnotic, such as sulphonal, to anticipate its coming into action.
7. Sulphonal is, except for its high price, the best of our hypnotics in that it is also a decided mental sedative. It appears to be quite safe in doses up to at least a drachm a day, given in divided doses of 30 grains n. and m., or, better, of 20 grains t. d. s.
8. Hyoscine is our strongest agent in a hypnotic emergency, and is quite safe up to a 1/50th, and probably up to a 1/33rd of a grain, hypodermically. It should be given an extended trial in acute delirious mania and in delirium tremens.

[J. B. H.]

The Successful Treatment of Leprosy

Rogers, L. (*The Practitioner*, August, 1921) discusses the treatment of leprosy by injections of soluble preparations of the fatty acids of chaulmoogra and other oils, and its bearing on the tuberculosis problem. He describes the use of chaulmoogra oil in leprosy, its chemical composition and its solubility in the various compounds. He then goes into the details of treatment and his results after four years' trial of this treatment. He presents his own opinion as to the value of his treatment as follows:

"There is thus no doubt that a very great advance has been made in the treatment of leprosy by my researches in Calcutta, and the more recent valuable extension of the work in Honolulu, which may well lead before long to actual cures of this terrible disease being obtained. Moreover, the hopes these advances hold out of effective treatment should prove of great value in attracting the more amenable early cases to the leper colonies which are about to be started in India, and thus help in enabling more extensive segregation, with lessened danger of the continued spread of the disease, for comparatively early cases are frequently very infective through their nasal discharges; while they are particularly liable to remain undetected in positions making them a great danger to others, as, for example, through being employed in connection with food, etc."

[J. B. H.]

The Causation and Avoidance of Cerebral Disturbances in Ligation of the Common Carotid Artery

Freeman, Leonard (*Annals of Surgery*, September, 1921 writes as follows:

The great danger from cerebral disturbances in ligating the common carotid artery is universally recognized.

The accepted theory in accounting for this danger is that of anaemia, due to failure of collateral circulation arising from defects in the circle of Willis.

An apparently more rational theory, recently emphasized by Perthes, is that of thrombosis at the point of ligation, followed by embolism. This accounts for the suddenness of onset of the symptoms and the greater or less interval which precedes them. The preponderance of cases after middle life is explained by the greater brittleness of the inner coat of the artery producing ragged edges when divided by the ligature and thus inviting thrombosis.

If this latter theory can be substantiated by experience it will do away with much of the fear and hesitation of the surgeon when confronted by this comparatively simple operation.

In order to avoid injury to the intima, Freeman ligates his artery with a strip of fascia lata and only ties it tight enough to occlude the lumen of the vessel, but avoids crushing the intima.

Hydatid Cyst in the Lung.

Ferro, P. (*Fiforma Medica*, September 21, 1921, No. 38) reports two cases the clinical history of which resemble pulmonary tuberculosis and the diagnosis of hydatid was made only by the x-ray. In one case there were three well defined cysts, one in the centre of the left lung and two in the right lung. An exploratory puncture was made in the cyst at the base of the right lung. 20 cm. of clear fluid was removed and 50 cm. of turbid bloody fluid. There was injected into this cyst one cm. 1-1000 Corr. Sub. sol. following this there was marked rise of temperature, after 15 days the patient began to improve.

The second case proved to be at operation an hydatid of the liver. The hydatid in the liver had pushed the diaphragm up to 12 cm., giving the x-ray the appearance of a well defined cyst at the base of the lung. Complete recovery after operation on the liver.

Eosinophilia 6 per cent. and 5 per cent. respectively, and positive complemental fixation test in both cases.

[G. M. B.]

Some Researches on the Periarterial Sympathetics

Leriche, Rene (*Annals of Surgery*, October, 1921).

The author presents a very interesting article on the nerve supply of the various coats of arteries, and has worked out an operation which is applicable in certain forms of trophic disturbances. He cuts down upon the artery and carefully decorticates it, thus severing the sympathetic nerve control which produces a dilatation of the arterial wall and hence improves the circulation. He shows two or three remarkable photographs of the healing of trophic ulcer after this treatment. This is a new procedure and in selected cases should probably be of great value.

[E. H. R.]

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THE AMENDED SHEPPARD-TOWNER BILL. S. 1039.

THIS Act is one of the most important measures relating to preventive medicine and medical practice recently adopted. It has been a storm center about which contests have been waged. Much has been written and said which reflected the personal reaction of the individual in the expression of opinions, bitter feelings have been exhibited and motives have been assailed; proponents have predicted the greatest benefits to humanity through the adoption of the Act, and objectors have claimed that dire disasters would result.

One group claims that the Act is unconstitutional, another contends that there is great injustice involved in the taxation features, and others feel that the practice of medicine will be revolutionized through an insidious attempt at state control or the so-called socialization of medicine.

Out of all these conflicting contentions, many on the side-lines fail to arrive at conclusions, but since the next step is the acceptance or rejection of the Act by the State, everyone should feel some responsibility. This obligation falls on the members of the medical profession above other classes of citizens, because physicians do, or ought to, know more about the need for public health legislation than the rest of the people. Some have carefully studied the Act and still feel confused about its advantages. Some still think that the adoption of any measure involving the obligation of securing approval of details by a Federal body is open to question.

Although our State Department of Public Health, through Commissioner Dr. Eugene R. Kelley, feels that the State should accept the provisions of the Act, and the Speaker of the House, the Hon. B. Loring Young, may take the position that this Act is more workable than bills previously presented to the legislature for maternity benefits and infant welfare, the attitude of the State will be determined by the legislature.

Our president, Dr. Bartol, has repeatedly urged the physicians of the State to study legislative matters and to convey to members of the legislature information which each should have in order to act intelligently. Never before in the history of the Society has there been such a persistent effort to lead physicians of this State to use every opportunity for the dissemination of information of value to law-makers, and the future of public health measures depends, to a great extent, on the attitude of physicians.

The most appealing arguments against the Sheppard-Towner Bill will be the question of constitutionality, the fairness of the taxation burdens involved and the objection to national supervision of state activities. The question of constitutionality must be left to the courts. Taxation is a matter that concerns everybody. The arguments relating to this feature will be based on certain figures which have been published. Taking the population of Massachusetts, which is, according to the census, 3,852,356, and the revenue collected from Massachusetts in the fiscal year ended June 30, 1921, amounting to $259,865,213.85, as a foundation, the argument proceeds as follows: The allotment to be matched will be $30,982. The gratuity will be $70,000 the first year and $5,000 for the subsequent years. The tax for the $1,000,000 Federal appropriation will be, for this State, $56,553.91. The tax on the $480,000 the first year will be $27,145.88, and each subsequent year, $13,572.94. The total cost to Massachusetts, including the state appropriation, for the first year will be $114,681.70. The total cost in subsequent years will be $101,108.85. The money loss to Massachusetts the first year will be $42,717.79, and for each of the subsequent years, $34,144.85. These figures are not vouched for by the JOURNAL, but have been published, and very probably will be used in debate.

The following states, territories and insular possessions will be losers, and will pay to help those which are the financial gainers: New York, Pennsylvania, Illinois, Ohio, Massachusetts, Michigan, California, Missouri, New Jersey, North Carolina, District of Columbia, Hawaii, Philippine Islands and Alaska.

The following states profit: Texas, Indiana, Georgia, Wisconsin, Kentucky, Iowa, Minnesota, Alabama, Tennessee, Virginia, Oklahoma, Louisi-

ana, Mississippi, Kansas, Arkansas, South Carolina, West Virginia, Maryland, Connecticut, Washington, Nebraska, Florida, Colorado, Oregon, Maine, North Dakota, South Dakota, Rhode Island, Montana, Utah, New Hampshire, Idaho, New Mexico, Vermont, Arizona, Delaware, Wyoming and Nevada. These figures are those which will be used by the opponents. From remarks made recently by Dr. Kelley of the State Department, it would seem that they may be inaccurate, and if so, the truth should be at hand, for if there are arguments without actual fact, the legislature may be confused and not act wisely.

The administrative features of the Act are confusing, for it is provided that a board shall be created, consisting of the Chief of the Children's Bureau, the Surgeon-General of the U. S. Public Health Service, and the U. S. Commissioner of Education. This Board shall elect its chairman and *"perform the duties provided for in this Act,"* but the Children's Bureau of the Department of Labor shall be *"charged with the administration of the Act,"* and further, under Section 13, the Children's Bureau shall perform the duties assigned to it under the *"supervision of the Secretary of Labor."*

One may feel in doubt about the efficiency of these officials if the Chairman of the Board should happen to be the Surgeon-General of the Public Health Service, and under the law, with one other member of the Board, assume the responsibility of performing the duties provided for in the Act, and should not recognize the authority of the Secretary of Labor.

One needs to have confidence in human nature in order to expect harmony in these somewhat conflicting provisions for supervisory and executive functions. We must hope for good under the law, if accepted by the State, but our representatives should have the benefit of clear interpretation of the Act, and full understanding can come only through careful study of it. Discussion should not be postponed until the hearings before legislative committees.

THE ATTACK ON THE RED CROSS BY THE ANTIVIVISECTION SOCIETIES.

THE Committee for the Protection of Animal Experimentation has published a brochure in which, in addition to a compilation of articles from eminent men in practically all walks of life, relating to the good accomplished by competent investigators through the use of living animals, attention is called to the attack on the Red Cross by the antivivisectionists.

It is undoubtedly within the rights of any person to criticise any large public organization, but the criticism of the Red Cross by the opponents of animal experimentation is disgusting in that it is more than impertinent, for the statements show an utter lack of human understanding and appreciation of the functions of the Red Cross. Such ignorance and prejudice are rarely exhibited in print, and give evidence of a quality of reasoning sometimes advanced by debased or degenerate minds. Any person using the language employed, although technically able to use words, must have inherent qualities which, under other circumstances, would lead to distrust of mental or moral stability. These expressions are not the momentary weaknesses of a mind under irritation, but are put into print, using the term "A Hydra-Headed Menace," in referring to the Red Cross; and in speaking of the supporters of this great beneficent organization, calls them "Suckers," and all because the Red Cross appropriated money to be used in studying means to be employed in helping our soldiers in the great war through knowledge obtained by animal experimentation.

It is quite probable that the great amount of good accomplished by scientific medicine, and the support given by influential persons, will keep the legislature from interfering with existing privileges, but it is unpleasant to be obliged to use so much time and energy in combating ill-advised propagandists.

The only consolation is that publicity furnishes information to many who otherwise would never understand some of the benefits which have been supplied to the people. Every interested person should secure this little pamphlet, which may be obtained by writing to Mr. Thomas Barbour, of the Committee.

NEWS ITEMS.

NEW YALE MEDICAL BUILDING ANNOUNCED.—Definite announcement is made by the University Secretary's Office, that the Yale Corporation and the Sterling Trustees have determined to appropriate from the Sterling funds the amount of $1,320,000 for the erection of a new and modern building to be known as the Sterling Hall of Medicine. With this purpose in view, the University has recently acquired the city block bounded by Cedar, Broad, Palmer and Rose streets, where the Dispensary now stands, opposite the New Haven Hospital. As one parcel of land was held at too high a price, the University has refused to purchase this parcel and will eventually build around it.

The announcement of the decision to erect a Medical School building follows recent announcements which have indicated an extraordinary development in the Yale School of Medicine. Through the reorganization of the curriculum, extensive changes in the Faculty, and a careful selection of students, it has been possible to bring about striking changes. An indication of the success of this reorganization has been found in the fact that of 450 candidates seeking admission for the present first-

year class, the School selected the 56 men who seemed the most promising material.

One of the outstanding features of the expansion of the Yale School of Medicine has been its closer affiliation with the New Haven Hospital and the Dispensary. In addition, the finances of the hospital have been placed on a stronger footing, and the physical rehabilitation has been begun.

Placing the Faculty of the Medical School on a University basis of full-time organization in the clinical service has been an important step in the consolidation of the work of the Medical School and the New Haven Hospital. With the beginning of the fall term of the present year, all four of the Clinical Departments of the School of Medicine have been placed on such a basis. A large number of changes have been made in the Faculty at the same time that Departments have been reorganized and added, with the result that the equipment and Faculty for both the preclinical and clinical years are now exceptional.

The Sterling Hall of Medicine will greatly facilitate the advance of the Medical School. It is hoped that to the Departments of Anatomy, Physiology, and Pharmacology and Toxicology, will be added, in the near future, a Department of Psychiatry. When these subjects have been carried out, all sections being housed together in modern buildings associated with a hospital of a capacity of 500 and the Out-Patient Department developing into a modern diagnostic clinic, the Yale Medical School is certain to occupy a permanent place among medical institutions in this country.

IT is estimated that 151,000 died from organic diseases of the heart in 1920, in the United States, which is an increase of about 13,000 over the number in 1919. In Massachusetts, the rate was 195.2 per 100,000 population. Only one state exceeded the Massachusetts rate in 1920. That state is Vermont, with a rate of 228.5.

NOTES FROM DISTRICT SOCIETIES.

NORFOLK DISTRICT MEDICAL SOCIETY.—A regular meeting of the Norfolk District Medical Society was held at Masonic Temple in Roxbury on December 27, 1921. Dr. C. D. Knowlton presided. The paper of the evening was read by Dr. John H. Cunningham. He discussed the subject of prostatic obstruction from every angle, touching upon its cause, pathology, symptoms, sequence of morbidity and treatment. He discussed the various surgical measures of treatment and the prognosis, especially as related to the general condition of the patient. Dr. Quinby, in discussion, added several points in the symptomatology of enlarged prostate not usually associated with the condition. The large gathering closed the evening with a substantial supper.

JOSEPH I. GROVER, M.D.,
Correspondent for the Norfolk District.

JOINT LEGISLATIVE CONFERENCE.

A MEETING of legislative committees representing Massachusetts, New York, New Jersey, Rhode Island and Connecticut, was held in Hotel Belmont, New York City, December 29, 1921, for the purpose of considering legislation of interest to the profession. This meeting was called by Dr. F. R. Green, representing the American Medical Association, and included the northeastern group of states holding legislative sessions in 1922. Massachusetts was represented by President John W. Bartol, Dr. James S. Stone, Dr. Edmund H. Stevens and Dr. Frank G. Wheatley. Plans were made to have annual conferences between adjoining states. The President states that the occasion was a pronounced success.

MINUTES OF THE SURGICAL MEETING OF THE SUFFOLK DISTRICT AT BOSTON MEDICAL LIBRARY, NOV. 30, 1921.

THE meeting was called to order at 8.15 P.M., by Dr. Bottomley, who presided. In the absence of the regular secretary, the Chair appointed Dr. D. F. Mahoney secretary *pro tem.*

Dr. Bottomley introduced as the principal speaker of the evening, Dr. William A. Downes, of New York, the subject of whose paper was, "Inguinal Hernia."

In introducing the speaker, Dr. Bottomley stated that many were of the opinion that from time to time we should be checked up on the subject of hernia.

Dr. Downes then proceeded to read a very interesting, scholarly and instructive paper on the subject of inguinal hernia. In the beginning, the speaker made a few statements, general and special, and then considered the anatomy of inguinal hernia in detail. Following this, the paper was illustrated by the use of lantern slides in which the author showed, more or less diagrammatically, the various steps of some of the principal operations in a radical cure. At the completion of the paper, the Chair called Drs. F. B. Lund, D. F. Jones and Lincoln Davis in discussion. Then followed general discussion, limited to five minutes each, by Drs. H. O. Marcy, David Cheever, F. H. Lahey, E. A. Codman and F. J. Cotton. The discussion was then closed by Dr. Downes.

It was unfortunate that there was not a larger attendance at a meeting of such importance, as there were about forty present. The meeting adjourned at 10.20 P.M.

DANIEL F. MAHONEY.
Secretary pro tem.

TRANSACTIONS OF RESEARCH CLUB OF HARVARD MEDICAL SCHOOL. CATERPILLAR DERMATITIS.

DR. N. C. FOOT talked on "Some New Facts in Connection with Caterpillar Dermatitis" at a meeting of the Research Club of the Harvard Medical School, on December 16, 1921.

It is commonly believed that the caterpillars which cause dermatitis do so by reason of the mechanical irritation set up by their spines, which enter the skin and lodge there. However, that this is not so, was shown by Dr. Tyzzer, in 1907, when he demonstrated the presence of a poisonous substance in the nettling hairs of the caterpillar of the brown-tail moth.

Dr. Foot then mentioned the families containing urticaring caterpillars, which are the Zygaicidea, Bombycoidea, and the Saturnioidea. The caterpillars that are found in this vicinity with urticaring properties, are the brown-tail moth, flannel moth, buck moth, saddle-back moth and the Io moth.

In general, the lesions produced by the urticaring caterpillars are a dermatitis, conjunctivitis, or even a tonsillitis or bronchitis, etc.

The nettling hairs are readily detachable and do not necessarily need to be attached to a live animal. So the hairs can be carried a great distance by some means and yet be able to sting. Thus, dead caterpillars, moulted skins, and cocoons are just as dangerous as the live animals. There are also adherent nettling hairs. They may be smooth unbranched, barbed unbranched, or branched as after the manner of a fir tree. Each type of nettling hair has a corresponding poison gland situated, as a rule, at the base of the hair and which opens through a duct situated in the lumen of the hair which runs its entire length. The venom which these glands secrete has been studied by different people and thought, at times, to be a form of cantharidin by some, and formic acid by others. However, if the end of a broken hair be tested, the venom exuding will be found to be faintly alkaline. Dr. Tyzzer, working on this problem, found that heat killed its poisonous nature at 115 degrees C. It is not killed at 100 degrees C. The poison is easily removed at 60 degrees C. with water. Or it may be removed at room temperature with weak acids and alkalies.

The sting of the Megalopyge opercularis causes, locally, a zone of redness about the wound. Locally, there is heat, tenderness, burning, slight swelling, urtication and itching. There may be stiffness, pseudo-paralysis and pain in the hand or arm. In children one sees restlessness, fever and occasionally convulsions. Working with this same caterpillar, Dr. Foot found that he obtained reactions with the larvae, prepuperal form, dead larvae and cocoons when rubbed on the skin. He did not find the same kind of a rash that is described by Bishopp. He found that the hairs on the legs of the caterpillar, the verruca-brush or tubercle on the caterpillar, would react positively when applied to the skin. Also by taking a single hair and touching the base of it to the skin he secured a positive reaction. The ornamental hairs and the caterpillar juices reacted negatively.

In treating the dermatitis that resulted, he found that alkalies were no good. Antipruritics were good, and he found a cold cream particularly effective. For excoriated lesions, tincture of iodine or tincture of benzoin co. is good.

Dr. Foot then described the pathology of the lesions and illustrated his descriptions with lantern slides. He also showed pictures of the several different kinds of hairs and of the different caterpillars.

In describing his own work, Dr. Foot said that he found, as a rule, the venom appeared easily reduced. It seemed to be an albuminoid substance. Boiling whole caterpillars at 55 degrees C. for an hour, did not change the poisonous nature of the venom, but it does so if continued overnight. In extracting the caterpillar skins, the caterpillar is fastened on its back and the viscera removed as completely as possible. These skins are then rubbed up in a mortar with sand and extracted. The fluid extract is then centrifugalized and filtered. The crude extract is found to lose its power when put through a Berkefeld filter. But the active substance cannot be recovered from the filter.

Inoculations of varying strengths were then made on both man and animals. When injected into a mouse the animal roughened up its hair and had slow, deep respirations, defecated, and would flatten its flanks and arch the back and tail. It appeared to suffer intense irritation at the site of injection, for it would bite at its belly. There would be convulsions in the end.

On inoculation into a vein of the ear of a rabbit, the rabbit would have a slowing of the heart rate and would go into collapse or convulsion. Once when a vein was missed and the inoculation went into the surrounding tissue, there resulted gangrene of the ear. There were practically no symptoms after gastric administration to a guinea pig.

Experimenting on smooth muscle *in vitro*, he found that when the crude extract was added to a chamber in which the muscle was contracting rhythmically, one saw the base line of the writing lever rise. The contractions remained of the same magnitude, however. Soon the contractions increased and had a small second contraction superimposed on the larger. This resulted in summation and the writing lever would go off the drum.

Working on animals, he found that if they recovered from a dose of the extract, that they would not react to further lethal doses of the same extract. However, experiments on himself seemed to show an increasing reaction to repeated injections. But this reaction may have been due to some other thing in the solution than the extract.

From his experiments he came to the following conclusions:

1. The dermatitis is due to a coarse, colloidal, probably protein venom.

2. It is introduced by the spines breaking off in the epidermis.

3. The venom is probably secreted at the base of the spine and stored in the lumen of the shaft of the spine.

4. The clinical symptoms can be more or less imitated by experiments in the laboratory, on man and animals.

Obituaries.

Albert Stone Garland, M.D., a retired Fellow of the Massachusetts Medical Society, died at his home in Gloucester, November 28, 1921, at the age of eighty-one years, from heart disease. A graduate of Yale College in 1863 and of Harvard Medical School in 1866, he had practised medicine in Gloucester for fifty years. In 1908 his name was placed on the retired list of the state medical society.

Eugene Woodbury Hill, M.D. Information has been received of the recent death in Tacoma, Washington, of Dr. Eugene W. Hill, formerly of Boston and Newton. From 1901 to 1910 he was a Fellow of the Massachusetts Medical Society where he was consulting neurologist to the Newton Hospital and Superintendent of the Laurel Wood Sanitarium. Born in Brooklyn, New York, April 11, 1864, he graduated from the University of Maryland Medical School, served as house officer in the University Hospital and Bay View Hospital, Baltimore, and in an insane asylum at Albany, New York. After settling in Newton in 1901 he moved to Braintree the following year and from then to Allston, where he lived when he entered the Public Health Service in 1908. He served for six years in the Panama Canal Zone under Surgeon-General Gorgas, receiving the Roosevelt bronze medal and being vice-president of the Isthmian Canal Zone Medical Association.

When he returned to the United States he was appointed Government physician for the Blackfoot reservation at Browning, Montana, was government physician for the Cœur d' Alene reservation for three years and in 1919 was transferred as superintendent and physician of the Quinault reservation at Taholah, Washington, where he was taken ill.

Dr. Hill was an accomplished violinist, and in Boston had been a pupil of Bernard Listeman, Loeffler, and had studied with Percy Goetschius and at the New England Conservatory. He was a member of the Masonic lodge in the Canal Zone, and took the Royal Arch degree in Colfax chapter, R. A. M. He was an honorary member of the American Legion and a member of the American Medical Society.

He is survived by his widow, Mary G. Hill, and two children.

Miscellany.

DEATH RATE IN BOSTON.

During the week ending December 24, 1921, the number of deaths reported was 237 against 179 last year, with a rate of 16.31. There were 27 deaths under one year of age against 31 last year.

The number of cases of principal reportable diseases were: Diphtheria, 71; scarlet fever, 38; measles, 47; whooping cough, 3; typhoid fever, 2; tuberculosis, 37.

Included in the above, were the following cases of non-residents: Diphtheria, 7; scarlet fever, 4; measles, 2; tuberculosis, 2.

Total deaths from these diseases were: Diphtheria, 5; measles, 1; typhoid fever, 1; tuberculosis, 21.

Included in the above, were the following cases of non-residents; Diphtheria, 3; typhoid fever, 1; tuberculosis, 1.

During the week ending December 31, 1921, the number of deaths reported was 214 against 229 last year, with a rate of 14.73. There were 27 deaths under one year of age against 39 last year.

The number of cases of principal reportable diseases were: Diphtheria, 67; scarlet fever, 52; measles, 51; whooping cough, 9; typhoid fever, 2; tuberculosis, 48.

Included in the above, were the following cases of non-residents: Diphtheria, 15; scarlet fever, 4; tuberculosis, 4.

Total deaths from these diseases were: Diphtheria, 4; measles, 2; tuberculosis, 7.

NEW AND NONOFFICIAL REMEDIES.

During December, the following articles have been accepted by the Council on Pharmacy and Chemistry, for inclusion in New and Nonofficial Remedies:

The Abbott Laboratories: Neocinchophen—Abbott.

Powers-Weightman Rosengarten Co.: Mercury and Potassium Iodide—P. W. R.

Schimmel and Co.: Oil of Cypress—Schimmel and Co.

E. R. Squibb and Sons: Liquid Petrolatum—Squibb; Food Allergens — Squibb; Pollen

Protein Allergens—Squibb; Animal Epidermal Extract Allergens—Squibb; Bacterial Allergens—Squibb.

Winthrop Chemical Co.: Chaulmestrol.

Nonproprietary Article: Chaulmoogra Oil.

Change of Agency: Cresatin.—The Council has directed that the description of Cresatin (New and Nonofficial Remedies, 1921, p. 94) be revised to show that the name has been changed to Cresatin—Dr. N. Sulzberge, and that it is manufactured by the Intravenous Products Company of America, Inc.

Yours truly,
W. A. PUCKNER, *Secretary*,
Council on Pharmacy and Chemistry.

Bromipin 10 per cent.—A bromine addition product of sesame oil, containing from 9.8 to 11.2 per cent. of bromine in organic combination. It acts like the inorganic bromides; but since it yields its bromine more slowly, it is thought to have less tendency to produce brominism. The dose is 4 cc. (1 fluidrachm), which may be increased in cases of epilepsy to from 8 to 30 cc. (2 to 8 fluidrachms). Merck and Co., New York (*Jour. A. M. A.*, Dec. 3, 1921, p. 1819).

Amylzyme.—An extract containing all of the digestive enzymes of the fresh pancreas of the hog. Amylzyme is sold only in the form of 2-grain capsules. G. W. Carnrick Co., New York (*Jour. A. M. A.*, Dec. 10, 1921, p. 1891).

Theobromine–P.W.R.—A brand of theobromine–N.N.R. Powers-Weightman-Rosengarten Co., Philadelphia (*Jour. A. M. A.*, Dec. 10, 1921 p. 1891).

Potassium Mercuric Iodide.—Potassii Hydrargyri Iodidum.—A complex salt, K_2HgL_4, formed by the interaction of one molecule of mercuric iodide with two molecules of potassium iodide containing about 25 per cent. of mercury. As a germicide, it is effective, since it does not coagulate albumin. As a germicide, potassium mercuric iodide is used in concentrations of from 1:100 to 1:10,000. Solutions of potassium mercuric iodide may be prepared: (1) by dissolving one part by weight of mercuric iodide and one part by weight of potassium iodide in a small amount of water and then diluting to proper strength; (2) by dissolving potassium mercuric iodide in water containing potassium iodide, equivalent to about 20 per cent. by weight of the potassium mercuric iodide used (*Jour. A. M. A.*, Dec. 17, 1921, p. 1971).

Diphtheria Toxin-Antitoxin Mixture–Squibb.—Each cubic centimeter of the mixture represents 3 L+ doses of diphtheria toxin and three units of diphtheria antitoxin. For a discussion of the actions and uses of diphtheria toxin-antitoxin mixture, see New and Nonofficial Remedies, 1921, p. 282. E. R. Squibb and Sons, New York (*Jour. A. M. A.*, Dec. 17, 1921, p. 1971).

Oil of Cypress—Schimmel and Co.—Fritzche Bros., New York (*Jour. A. M. A.*, Dec. 17, 1921, p. 1971).

Xeroform–S. and G.—A brand of bismuth tribromphenate–N.N.R. Schering and Glatz, New York (*Jour. A. M. A.*, Dec. 17, 1921, p. 1971).

Theobromine and Sodium Acetate.—A brand of theobromine sodium acetate–N.N.R. Powers-Weightman-Rosengarten Company, Philadelphia (*Jour. A. M. A.*, Dec. 24, 1921, p. 2061).

PROPAGANDA FOR REFORM.

Quinidin in Heart Disease.—Quinidin has suddenly leaped into prominence because of its striking effects in certain forms of cardiac irregularity. It is to be hoped that the few favorable reports will not lead to the indiscriminate use of the drug in every type of irregular and rapid type of heart (*Jour. A. M. A.*, Dec. 3, 1921, p. 1822, and BOSTON MEDICAL AND SURGICAL JOURNAL).

Delano's Rheumatic Conqueror.—The state chemists of North Dakota analyzed this "rheumatic cure" some years ago and reported: "This preparation is essentially starch, with a small amount of talc, containing a little quinin coated with calcium carbonate" (*Jour. A. M. A.*, Dec. 3, 1921, p. 1838).

Butyn.—The Council on Pharmacy and Chemistry reports that Butyn is the name applied by The Abbott Laboratories to a new local anesthetic proposed for use in place of cocain in surface anesthesia in the eye, and for anesthesia of other mucous membranes. So far, however, the therapeutic value of Butyn has not been proved by adequate clinical trials. For this reason, the Council postponed the acceptance of the drug for New and Nonofficial Remedies, and published a preliminary report on Butyn for the information of those who wish to put Butyn to clinical trial (*Jour. A. M. A.*, Dec. 10, 1921, p. 1891).

Intravenous Specialties of the Intravenous Products Company of America.—This firm's list of specialties bears a striking resemblance to those of other "intravenous specialty" firms. Its endoarsen, like venarsen of the Intravenous Products Company of Denver, is stated to contain a cacodylate ("dimethylarsenate"), together with mercury and iodid. Venarsen was reported on unfavorably by the Council on Pharmacy and Chemistry, in 1915. The inferior efficacy of sodium cacodylate and its worthlessness as a spirocheticide, have been demonstrated. Like other "intravenous" firms, this company advertises the intravenous administration of drugs, such as sodium iodid and hexamethylenamin. The objections to and the dangers of indiscriminate administration of drugs intravenously was recently emphasized in a report of the Council on Pharmacy and Chemistry on "Some of Loeser's Intravenous Solutions" (*Jour. A. M. A.*, Dec. 10, 1921, p. 1912).

"The Alsaker Way."—R. L. Alsaker advertises a series of "Books that Teach the Alsaker Way to Health and Efficiency." Rasmus Larrsen Alsaker was graduated by Bennett Medical College, Chicago, in 1910. Alsaker's book, "Curing Diseases of Heart and Arteries," seems to be the book that is pushed at present. The first part of this book contains certain elementary facts of physiology and hygiene that could be found in the ordinary common school textbooks on such subjects. The therapeutic phases of the subject are so treated that the average reader might well reach the conclusion that all physicians—except Alsaker—are either fools or rogues, and that from Alsaker alone flows the only pure, unadulterated, 100 per cent. medical knowledge. Alsaker's book may be counted on to have a very definite effect on the person who accepts its teachings. It may lead any patient who, because of an impaired circulatory system, is under the care of a physician, to abandon such rational means as the physician might recommend and attempt self-treatment (*Jour. A. M. A.*, Dec. 10, 1921, p. 1909).

Cod Liver Oil in Rickets.—While there is a growing belief that cod liver oil is of distinct therapeutic value in rickets, many of the experiments along this line are not sufficiently objective to be entirely convincing. Now, however, Park and Howland have furnished the direct ocular proof of the effects of cod liver oil on rickets which roentgenograms afford. (*Jour. A. M. A.*, Dec. 31, 1921, p. 2122).

MORTALITY FROM CANCER: 1920.

THE DEPARTMENT OF COMMERCE, through the Bureau of the Census, announces that nearly 73,000 deaths were due to cancer in the death registration area of the United States in 1920, and if the rest of the United States had as many deaths from this cause in proportion to the population, the total number of deaths from cancer in the United States for 1920 was 89,000, while for 1919 the number is estimated at 84,000, or 5,000 less than for 1920.

The trend of the cancer death rate is upward, the rate for 1920 being higher than that for any earlier year in 22 of the 33 states. The cancer death rate in the registration area in 1920 was 83.4 per 100,000 population, against 80.5 per 100,000 population for 1919. In comparing the death rate from cancer in one state with that in another, the Bureau uses "adjusted" rates in order to make allowance for differences in the age and the sex distribution of the population, because, generally speaking, only persons in middle life and old age have cancer, so that a state with many old persons may be expected to have more deaths from cancer than a state with comparatively few old persons.

The highest "adjusted" cancer rate for 1920 is 98 per 100,000 population for the State of Massachusetts, and the lowest is 45.9 per 100,000 population for the State of South Carolina.

For a few states adjusted rates have been calculated separately for the white and colored population. In this group of states the highest adjusted cancer rate for the white population is 92.5 per 100,000 population for New York, and the highest rate for the colored population is 82.2 per 100,000 population for Pennsylvania. The lowest adjusted cancer rate for the white population is 47.6 for Mississippi and the lowest for the colored population is 38.5 for South Carolina.

Summarized briefly, the adjusted rates show that the Northern States have comparatively high, and the Southern comparatively low cancer mortality, while there is little difference between the adjusted cancer rates of the white and colored races of the same states. In other words, the white and colored races seem equally susceptible to cancer, but both races seem less susceptible in the South than in the North.

CHAULMOOGRA OIL AND LEPROSY.

THE U. S. PUBLIC HEALTH SERVICE has felt it necessary to prevent the too optimistic and extravagant claims recently appearing in the newspapers in regard to the curative effects of chaulmoogra oil derivatives on leprosy. While the use of the oil and of its derivatives has resulted in a considerable number of apparent cures, it is as yet too soon to tell whether these will be permanent.

The ethyl esters of chaulmoogra oil, the use of which has largely supplanted the oil itself, constitute a most valuable agent in the treatment of leprosy. In treating young persons and those in the early stages of the disease, the improvement has been rapid and striking; in older persons, and older cases, it is less so. Of the cases paroled from the leprosy stations in the Hawaiian Islands, so far, about eight per cent. have relapsed and returned for treatment. This was to be expected; and on the whole, the results have been so favorable as to make treatment of the disease hopeful. But only time can tell.

NEW U. S. PUBLIC HEALTH HOSPITALS.

BEFORE the year ends, the U. S. Public Health Service expects to add three more hospitals to the fourteen it has opened since January 1 last. It is also preparing nine other hospitals, four of which will probably be opened by May 1, and the others a little later. All of these hospitals have either been leased from private owners or taken over from the

Army or the Navy, the new construction authorized by Congress at the extra session not yet being well under way.

Hospitals put into commission during the last three months include the former Navy Hospital at Gulfport, Miss., with 150 beds; the hospitals at Jackson Park, Chicago; Colfax, Iowa, and Portland, Oregon; with a total of 350 beds; and the Edward Hines, Junior Hospital at Maywood, just outside of Chicago, with 1,000 beds. Those opened in December were the Fort McKenzie, at Sheridan, Wyo.; and one of the two buildings at Fort Logan H. Roots, Little Rock, Ark., with a total of 480 beds. The Navy Hospital at Las Animas, Colo., 750 beds, now operated by Navy surgeons, will be taken over as soon as a suitable Public Health Service Staff can be organized. These hospitals will increase the capacity of all service hospitals to about 22,600.

Hospitals planned to be opened for 1922 include the tuberculosis hospitals at beautiful Dawson Springs, Ky.; Excelsior Springs, Mo., and Rutland, Mass., with a total of 920 beds; the general hospitals as Fort Walla Walla, Wash., near the junction of the Coast wheat and fruit belts, and at Norfolk, Va., with a total of 1,240 beds; and the neuropsychiatric hospital in the Bronx, New York City, with 1,000 beds.

TABULATION OF CHILDREN'S YEAR WEIGHING AND MEASURING.

THE largest mass of data on the heights and weights of children under six years of age ever brought together in this country has just been made public by the U. S. Department of Labor through the Children's Bureau. The report entitled "Statures and Weights of Children under Six Years of Age," is based on records secured with the coöperation of individuals and organizations throughout the country in connection with Children's Year. Besides showing the present average heights and weights of the younger children of America, these records form a basis for measuring possible future progress in physical development. Of the 172,000 records tabulated, all of which met certain requirements as to accuracy and completeness, 167,024 were records of white and 4,976 were records of Negro children.

Boys under six years of age were found, according to the report, to average from one-third to one-half an inch taller and to weigh about a pound more than girls of the same ages. They were also heavier than girls of the same stature. California children were found to be slightly taller and heavier than other groups in the study—a difference for which climate or some factor other than the nationality composition of the population, which closely resembles that of other parts of the country, is held responsible. The shorter stature noted in the New York City group, is, however, attributed to the presence in that group of a larger proportion than in the country as a whole, of short-statured races, such as the Italian and Jewish.

A selected group of children of native parentage showed very little deviation in averages height and weight from the averages of the larger group including both children of native and those of foreign-born parents. Children in rural areas slightly exceeded the average for city children in both stature and weight, while the heights and weights of Negro children under four years of age as compared with white children of the same ages, showed a deficiency in weight of 11 ounces for boys and nine ounces for girls, and stature deficiencies of two-fifths and one-fifth inches, respectively. These deficiencies, greatest at one year of age and under, may result from the poor nutrition and unfavorable social and economic conditions that cause a high mortality rate among colored infants, or, perchance, may be due to a racial difference in rate of growth. At five years of age, practically no difference in average height and weight is found between white and negro children.

STARVING RUSSIAN PHYSICIANS.

THE starving condition of Russian doctors in the famine areas, where their help is badly needed, is seriously interfering with a vitally important medical program drawn up by the American Relief Administration officials for the benefit of the hunger-stricken population. Cholera, typhus, malaria, dysentery and other skin and stomach diseases consequent on malnutrition, are rampant all through the Volga river basin, where 30,000,000 people are in acute need, if not in danger, due to the failure of last summer's crop. An absolute dearth of medical supplies at first hampered the work of the American Relief Administration, but a grant of $3,000,000 in cash from the American Red Cross for the purchase of stocks, as well as a further gift of $700,000 worth of surplus material, eliminated this difficulty. Now the call is for personnel which Russia herself can supply if only food enough can be found to keep the workers themselves fit.

"We urge consideration of the possibility of securing general relief in the form of food remittances for doctors," the American Relief Administration cabled recently from Moscow. "This is one of the most urgent needs to assist the general Russian situation. Telegraphic advice of general relief donations for this purpose, to make it as far-reachingly effective as possible, would have wonderful results."

These food remittances, which can be bought at the American Relief Administration offices, 42 Broadway, New York City, call for the delivery to designated individuals in Russia, of

packages, each costing $10, containing 117 pounds of nourishing food. This includes flour, rice, cocoa, sugar, cooking fat, tea and condensed milk, sufficient in each package to keep an adult well fed for one month. Should the donor in America not know of any individual to whom he or she wishes to send such a gift, the remittance can be made payable to general relief, the beneficiary to be chosen by the A. R. A. after personal investigation of his needs.

Already the Jewish Joint Distribution Committee, in reply to the A. R. A. appeal on behalf of doctors, has appropriated $25,000 to be spent on remittances for their relief.

DOG BITES.

ALTHOUGH rabies is not a very common disease, if it is untreated, death is the usual result. A rabid animal may possibly transmit the disease during a period of ten days prior to the development of symptoms. The incubation period is usually from two to six weeks, but may be many months. Treatment after the onset of symptoms is rarely effective. All dog bites should be treated by a physician, and the possible dangers explained, but hysterical impulses should not be encouraged. It is unwise to have the offending dog killed, in the absence of symptoms of the disease, but rather to confine the animal and, if suspicious symptoms develop, have the dog killed and its brain examined. Keep in touch with the local board of health, and be prepared to employ antirabic treatment immediately if there seems to be any reason for so doing.

Discourage the treatment of dog bite by any person other than a physician. Many boards of health are issuing circulars of information relating to rabies.

MASSACHUSETTS SOCIETY OF EXAMINING PHYSICIANS.

AT the meeting, December 27, of the Massachusetts Society of Examinnig Physicians: Dr. Washburn summed up the discussion in favor of the original plan for orginization by the following points:

1. State lines in New England are not as sharp as in other sections of the country, and while the plan proposed by Dr. Warner seems better suited to all sections it is quite possible that the original plan will be successful in New England.

2. The New England Hospital Association can be formed and made active at once and Dr. Warner's plan would take time to accomplish.

3. If the New England Hospital Association does not prove an unqualified success, or for any reason it seems desirable, the plan proposed by Dr. Warner can at any later time be put into operation, through the existence of the New England Hospital Association, more easily than now.

The following officers for 1922 were elected: President, Dr. William P. Coues, Boston; Vice-Presidents, Dr. C. S. Benson, Haverhill; Dr. Wm. J. Brickley, Boston; Dr. Cadis Phipps, Boston; Secretary, Dr. Hilbert F. Day, Boston; Treasurer, Dr. R. C. Gwin, Boston; Council, Dr. Constantine Popoff, Haverhill; Dr. D. E. Brown, Brockton; Dr. Gaetano Praino, Boston; Dr. Andrew J. Cornwall, Boston; Dr. John E. McCartin, Boston. Chairman of Dinner Committee, Dr. J. H. Stevens, Boston.

By motion unanimously adopted it was made a policy of the New England Hospital Association to keep its qualifications for membership at all times identical with the qualifications for personal membership in the American Hospital Association.

ARE YOU DOING YOUR DUTY?

SMALLPOX has not been prevalent in Massachusetts of late years. In all probability a considerable number of children below the school age have not been vaccinated, and older people who have come to Massachusetts from other states may be vulnerable. In the routine of family visits the doctor could ask the question: Are you protected against smallpox? Tell the people of the Kansas City outbreak, with a mortality of 34.4 per cent. Illustrate by the following facts published by the Chicago Department of Health:

A mail clerk on the Santa Fe Railroad, running between Kansas City and Chicago, contracted smallpox in Kansas City a few weeks ago. He came to his home in Chicago and died of the disease a few days later. He never had been vaccinated. His wife is in the Isolation Hospital now with smallpox. She never had been vaccinated.

A fine young lady, eighteen years old came from Kansas City to visit friends at LaGrange, Ill., a couple of weeks ago. She came down with smallpox and died of the disease a few days later. She never had been vaccinated.

A wealthy business man, forty-two years of age, whose home is New York City, visited Kansas City on business November 17th. He came to Chicago, became sick with smallpox in a prominent Michigan Avenue hotel, November 30th, died in the Isolation Hospital December 12th, and was cremated the same day. He had never been vaccinated.

A little sore on the arm is much to be preferred to a zinc-lined box and a hole in the ground in a cemetery.

There were 1003 cases of smallpox reported in the United States for the week ended December 10, 1921.

Correspondence.

PEDIATRICS IN PARIS, 1920—1921.

Paris, Dec. 1, 1921.

Mr. Editor:—

In *L'Hôpital*, a bi-monthly French medical journal, October, 1921, there is an exceedingly valuable article by Dr. Germaine Blechmann, Chef de Clinique at the Foundling Hospital in Paris (l'Hospice des Enfants Assistés), entitled "French Pediatrics Since the War," a résumé of contributions by specialists in diseases of children during the past two years.

Under the caption, "Alimentation," Blechmann quotes from Professor Marfan, chief physician to the Foundling Hospital, that the hiccoughs of indigestion are due to over-rich nourishment, whether from breast milk or prepared foods. Marfan also believes that thumb-sucking may aid digestion by increasing the saliva, and that some form of hard and sterile "pacifyer" probably satisfies a natural demand of teething infants and should not be prohibited (This with a sly dig at American pediatrists). Marfan also uses very simple formulae for the prepared food of babies whose indigestion is impaired; in diarrheal cases, a combination of buttermilk and rice water or barley gruel, or in cases of persistent vomiting he uses a weak solution of condensed or dried milk. Such vomiting, however, within an hour after meals, he often attributes to a neurosis of the stomach or to congenital syphilis, and treats the child accordingly. Prof. E. Weill, however, believes that such vomiting is a sign of anaphylaxis. He accordingly desensitizes the child by injecting under the skin of its abdomen a small quantity of food, whether breast milk or cow's milk, one injection of 3 or 4 c.c. often proving sufficient to cure most cases, even if the child has athrepsia or desquamative dermatitis, due to its nutritional disorder.

Under another subdivision of his article, Blechmann takes up the subject of the use of vaccines in infants to cure pyodermatitis. He quotes from the clinics of Professor Guinon and Weill that one or two injections of 250 millions staphylococcus have been found to cure mild cases of this disease, although for severe infections they use 50 millions every three days until the skin becomes normal. Vaccines are also used liberally in infants for the cure of cerebrospinal meningitis. Rochebois and others found that if subcutaneous injections of meningococcus vaccine were given, the results were better than with intraspinal injections. (This statement is corroborated in a recent article on the relationship of blood and spinal fluid, in the *Presse Médicale*.)

Another subdivision of this article is concerned with the pathology of fevers of apparently unexplainable origin. Armand-Delille attributes the daily elevation of temperature to latent tuberculosis, but other pediatrists look for slight inflammation in the nasopharynx, and there are others who consider the fever as due merely to nervousness or fatigue. Where, however, there is an inflammation in the nasal or respiratory passages, Nobécourt and others believe that the penumococcus can usually be found, and they agree as to the necessity of isolating every pneumococcus patient. Here again vaccine and serotherapy are giving favorable results in nontubercular cases. Prof. Apèrt (Hôpital des Enfants Malades) uses a combination of antipneumococcic and antistreptococcic serum for his cases of broncho-pneumonia and whooping-cough. Under this treatment, deaths from whooping-cough have declined from 21 per cent. to 13 per cent., and from broncho-pneumonia there are 8 per cent. fewer deaths than under other treatment. He has not obtained favorable results from any form of vaccine or serotherapy in measles.

In all other cases of prolonged fever of uncertain origin, there being no otitis nor meningitis, and a negative von Pirquet reaction, Marfan insists upon the blood-serum test for typhoid or paratyphoid, of which there are many cases in France at present, due to the long drought and infected drinking water. The prophylactic treatment of these diseases is strongly urged, as well as for diphtheria, and Marfan and Calmette even go so far as to predict inoculating babies and animals with some form of Koch's tuberculin against the almost universal scourge of tuberculosis. The toxin-antitoxin prophylactic for diphtheria is used by Weill-Hallé, and by Netter, intramuscularly, while Martin uses it subcutaneously, but all concur in sounding a warning against its use in asthmatic subjects.

In the treatment of whooping-cough, besides the rather doubtful value of vaccines and serums, several pediatrists are giving intramuscular injections of ether in olive oil (three parts of anesthetic ether to seven parts of sterile olive oil), in doses of ½ to 2 c.c., repeating the dose every day for six days, and then, after a pause for five days, recommencing the series and continuing as long as is necessary.

With this cursory discussion of infants' diseases in general, Blechmann turns to the two scourges of infancy—syphilis and tuberculosis—which play a large rôle in France. Syphilis shows itself in the more or less extensive degeneration of liver, pancreas, parotid glands, involving all forms of digestive disorders and althrepsia, affecting the pleuropulmonary organs and bronchi with sclerosis, and resulting in nephritis and alterations of the ductless glands. The infection occurs before or after birth and appears with signs of myxedema, osteomalacia, chronic rheumatism, gigantism or dwarfism, and nervous troubles of all kinds. For these syphilitic infections, babies are treated, like adults, by injections of novarsenobenzol or sulfarsenol, or by inunctions or rectal suppositories of mercury. Frequently the injections of arsenic or preparations of mercury are made into the jugular or epicranial veins, a process not difficult after a little experience. Maternal syphilis is also "obstinately treated" during pregnancy and in the intervals between gestations.

As for tuberculosis, a thesis of Mlle. Mioche is quoted as showing that a new baby has 90 per cent. immunity during its first year. If, however, its antibodies are not sufficiently active, the disease is rapidly fatal, although the injections of the ether in oil seem to promise some benefit.

In closing this article, mention is made of the treatment of malaria, in infants, by intramuscular injections of formiate of quinine, in doses of .05 c.g. and of the treatment of asthma by adrenalin, serotherapy, peptonotherapy or vaccinations, depending on the cause, whether the asthmatic attacks are hypervagotonic or anaphylactic. For the treatment of convulsive diseases of children, Marfan and others are using luminol with excellent results. This drug is given in doses of 0.02 to 0.05 c.g., depending on the age of the child. Epilepsy and chorea seem to be yielding readily to this treatment.

All in all, however, the best work in France, as elsewhere, is in the department of puericulture. There are now clinics for mothers and babies in all parts of France; the foundling hospitals are being reorganized to permit of sending small groups of babies or children to the country, under observation and intelligent care; visiting nurses are being trained and employed by the government; and further, Prof. Marfan recommends establishing free restaurants for needy mothers who are nursing their babies and even beds and light work for such mothers as are indigent, where they and their babies may be under the care of competent physicians and nurses. Such is the goal toward which France is striving in order to insure a larger and healthier population, and I may add that American physicians who go to Europe to study, could do no better than to take their pediatric work in the various hospitals for children in Paris.

Among the best hospitals for the study of children's diseases in Paris, might be cited:

Hôpital des Enfants Assistés—Prof. Marfan, Dr. Blechmann.

Hôpital des Enfants Malades—Prof. Nobécourt, Prof. Apèrt, Prof. Lereboullet.

Hôpital Brétonneau—Prof. Guinon.

Hôpital Saint Antoine—Prof. Netter, Prof. E. Weill.

Inst. of Puericulture, Rue Desnouettes—Prof. E. Weill-Hallé.

At all the hospitals there is excellent surgery, especially that by Prof. Broca and his Chef de Clinique, Dr. Jean Madier, at the Hôpital des Enfants Malades.

KATE C. HURD-MEAD.

CHRISTIAN SCIENCE AND CANCER.

December 20, 1921.

Mr. Editor:

It has been brought to my attention that a public statement has been made, by one who speaks with authority among Christian Scientists, that patients suffering from cancer have been cured by Christian Science. My interest in this statement is due to the fact that a patient who was under my care some years ago, falls into this class. The facts are briefly as follows:

The patient had suspicious symptoms for a year, and during that year was operated on twice (curettage). When I saw her there was a large growth of the cervix uteri. Under ether, the mass was found to be movable in the pelvis, but radical operation was not attempted because, (1) the patient's general condition was not good; (2) the growth was very soft and apparently of a rapidly growing type; and (3) after curettage, the examining finger was passed through the curetted cervical tissue into the left broad ligament, where the peritoneum was reached but not punctured. Anatomically it was a border-line case and the contraindication to hysterectomy was the poor general condition of the patient.

The treatment given was thorough curettage of the crater-like cervix: cauterization of the crater with the Paquelin; packing of the crater with gauze soaked in one-half of one per cent. solution of formaldehyde.

The patient is now—three years and three months after the operation—clinically without signs of cancer. She says she is perfectly well. The cervix uteri is normal for a parous woman of about forty. There is a scar of laceration in the left side and some scar tissue in the left vaginal vault. The fundus is slightly enlarged and normal in position. There is no mass in the pelvis, no induration of the broad ligaments. The movements of the uterus are slightly restricted as if there had been some old inflammatory process. There is, clinically, no sign or symptom of cancer. The patient says she was cured by Christian Science, the symptoms undergoing gradual amelioration for about four months after the operation, when all symptoms disappeared, without recurrence to the present time. Treatment by Christian Science was begun while the patient was in the hospital.

There are several conceivable explanations, among which are: (1) the patient on whom I operated is not the patient whom I examined recently; (2) the tissue which was examined by a competent pathologist (Dr. F. B. Mallory, Boston City Hospital) and pronounced cancer is not the tissue I removed by curettage; (3) the pathologist made a mistake; (4) the patient still has cancer.

While it will never be possible to check up the second point, the others have been gone over most carefully, and checked up.

I have omitted discussion of many points which, while pertinent to the investigation, having been reexamined and determined, do not affect the argument and need not be specified in this summary.

The most obvious conclusion, then, that can be drawn, is that this patient who, over three years ago, had cancer of the cervix which was deemed ineradicable, is now clinically free from all signs and symptoms of cancer.

It is important to specify conclusions that may *not* be drawn from these facts, and this cannot be emphasized too strongly.

There is no ground for concluding that the patient is cured of cancer; not even the five-year period has elapsed. There is absolutely no ground for concluding that the patient was cured by any alleged therapeutic properties of thinking she was never sick.

But even granting, for the sake of argument, that the patient is cured, the cancer was curetted thoroughly, and cauterized, and treated with formaldehyde.

If Christian Science is to claim to cure cancer, it must show a series of cases cured of cancer. A single instance of alleged cure is not scientific proof. A single controlled experiment is proof only if it can be repeated indefinitely, thus constituting a series of individual cases. In each case, it must be shown that the patient had cancer. It must then be shown that no other treatment was used, except Christian Science. It must then be proved that each patient was cured. Finally, when the proof is complete up to this point, we must take into consideration the fact that spontaneous cure of cancer may occur, however rare it may be. Only a series of cases will meet this objection, in accordance with the laws of probability.

It is important to call attention to the close analogy between this individual case and some cures alleged to be due to radium. The patient is operated upon, radium is then used, and the claim of cure is made for radium. In this particular class of cases, there is no justification for such a conclusion.

There is, as far as I know, no case of cancer cured where Christian Science alone was tried.

Yours respectfully,

STEPHEN RUSHMORE.

520 Commonwealth Ave., Boston.

A NEW ASSOCIATION.

Shelburne Falls, Mass., Dec. 31, 1921.

Mr. Editor:

Your issue of this week has reached me, and I have read with interest Dr. Upton's letter under your title, "A New Association of Physicians."

It appears to me that Dr. Upton's letter deserves commendation in every way, and, furthermore, it would appear that his letter arrived just at the proper moment to precipitate a movement that has been smouldering for months.

Every active physician is being imposed upon in some way, and has been for some time, from one angle or another, regardless of whether he is practising in the larger centers or in rural communities. We have had no means of remedy, for lack of cooperative organization to back up our protests.

To the city man, there has been the hospital closed monopoly, and pauperizing free clinic, industrial and insurance physician and nurses.

In the country, we have the community nurses practising medicine, and lately, the Red Cross Society sending out its tentacles, commencing in the rural districts. Telephone companies have raised

their rates and put one over on us without hindrance, so that now, by decision of the court, we are classed, officially and legally, as a business and must pay business rates.

By adverse or unguided legislation, how many surgeons and physicians, for that matter, can feel secure when they go to bed at night, that they will not be mulcted out of thousands of dollars in the morning, by some blackmailing malpractice suit in the morning?

We, as surgeons and physicians, have many problems that could and would be easily solved without difficulty if we had a strong and fair organization back of us. Each and every one would benefit. Many problems would not arise at all only for the fact that we have no power behind us or our protests.

Such an organization in our State would of necessity spread to a national one. It is a conceded fact that any organization that we all can align up with must of necessity be handled from the standpoint of good and high ethics.

An organization formed now, in this State, would not create a precedent. Two or three years ago, in Germany, an industrial strike of national scope was nipped in the bud because the physicians threatened a counter strike. In Vienna, government meddling became so intolerable that the physicians gave twenty-four hours notice to rectify its ways, and the government hopped to it long before the time limit was up.

In London, Ontario, the local physicians have enjoyed, for years, a twenty per cent. reduction in telephone rates. Why can we not organize and rectify some of these things that are persistently dogging us? All that I can see that we have done is to let the legislature and everybody else kick us around to their heart's content.

Why not, Mr. Editor, let us get together someway, somehow? As a suggestion, would it not be well for the physicians of the State, regardless of affiliations, to send in their names, saying they will join and support an organization, providing that one or more representatives from each district be brought together, furnished with all the available problems, and draw up tentative rules and regulations, and means of carrying out such rules, these rules to be submitted back to each one for his individual approval and suggestions? Suitable modification can then be made and the organization gone ahead with.

I would like to see some sort of activity in the way of a vote such as would be representative of the above suggestion.

A good solid vote might wake things up, without going much further.

Thanking you,

Fraternally yours,
W. A. HUTTON.

NOTICES.

NEW ENGLAND OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.—The annual meeting will be held at the University Club, 270 Beacon Street, Boston, on Tuesday evening, January 24, 1922. The Annual Dinner, for which there will be a charge of $4.00 per plate, will be served at 7 o'clock.

Program: The speaker of the evening will be Dr. George Fetterolf, of Philadelphia, Pa.; subject, "Tuberculosis of the Upper Respiratory Tract."

It is hoped there will be a large attendance.

WILLIAM F. KNOWLES, *President.*
GEORGE LORING TOBEY, JR., *Secretary,*
416 Marlboro St., Boston.

THE DE ROALDES PRIZE of the American Laryngological Association — a gold medal of the value of $150—offered for the best original thesis upon a subject pertaining to Laryngology or Rhinology, is now open for competition to non-members of the Association.

Theses must be in the hands of the Chairman of the Prize Committee prior to April 1, 1922.

D. BRYSON DELAVAN, M.D., *Chairman.*
Address: 40 East 41st St., New York.

MASSACHUSETTS GENERAL HOSPITAL. — A clinical meeting of the Massachusetts General Hospital Staff will be held in the Lower Out-Patient Amphitheatre on Monday, January 16th, at 8 P.M.

Program:

1. A Case of Evulsion of Scalp, with Trophic Disturbances.—Dr. W. M. Shedden.
2. Report of Progress in Investigations of Shock. —Dr. M. A. McIver.
3. Results of Colectomy.—Dr. G. W. W. Brewster.
4. Tetanus.—Dr. R. H. Miller.
5. Open Reduction of Fractures. —Fracture Service.

Dr. Franklin G. Balch will preside.

Very truly yours,
FREDERIC A. WASHBURN,
Resident Physician.

THE CHILDREN'S HOSPITAL.—The visiting staff of the Children's Hospital will hold a Clinical Meeting in the Amphitheatre of the Hospital, Friday, January 13, 1922, at 4.30 P.M.

Demonstration of cases.

Physicians are cordially invited to attend.

BOSTON CITY HOSPITAL.—Staff Clinical Meeting, Cheever Surgical Amphitheatre, Friday, January 13, 1922, at 7.45 P.M.

Topic: End-results of Acute Injuries—Treated and Untreated—Follow-up.

Speakers—E. H. Nichols, M.D., F. J. Cotton, M.D., H. A. Lothrop, M.D.

Length of meeting—7.45 P.M. to 9.30 P.M. Refreshments afterward. Open discussion. Physicians and medical students invited.

DR. H. ARCHIBALD NISSEN,
DR. HALSEY B. LODER,
Committee.

Dr. William P. St. Lawrence, of New York City, will give an address at the Peter Bent Brigham Hospital, Thursday, January 19, 1922, at 8.15 P.M. His subject will be "Potential Cardiac Disease and the Development of Organic Disease of the Heart in Children." The discussion will be opened by Dr. Richard S. Eustis, and Dr. Burton E. Hamilton.

The meeting has been arranged by a committee of the Boston Association of Cardiac Clinics. All physicians and social service workers interested in the problem of heart disease are invited to attend.

WILLIAM H. ROBEY, M.D., *Chairman,*
PAUL D. WHITE, M.D., *Secretary,*
GEORGE P. DENNY, M.D.,
PAUL W. EMERSON, M.D.,
WILLIAM D. REID, M.D.,
RICHARD S. EUSTIS, M.D.,
BURTON E. HAMILTON, M.D.

RESEARCH CLUB.—The meeting of the Research Club, to be held at the Harvard Medical School, Amphitheatre in Building A, at 12.30 o'clock on Friday, January 13th, will be addressed by Dr. C. T. Brues, on "Certain Apparently Symbiotic Microörganisms in Scale Insects."

INDEX OF VOL. 185.

A complete Index of the JOURNAL from July to December, 1921, is being prepared and will be mailed later to every subscriber.

Index to Vol. 185 can be secured at the JOURNAL office by those who wish to have their JOURNALS bound.